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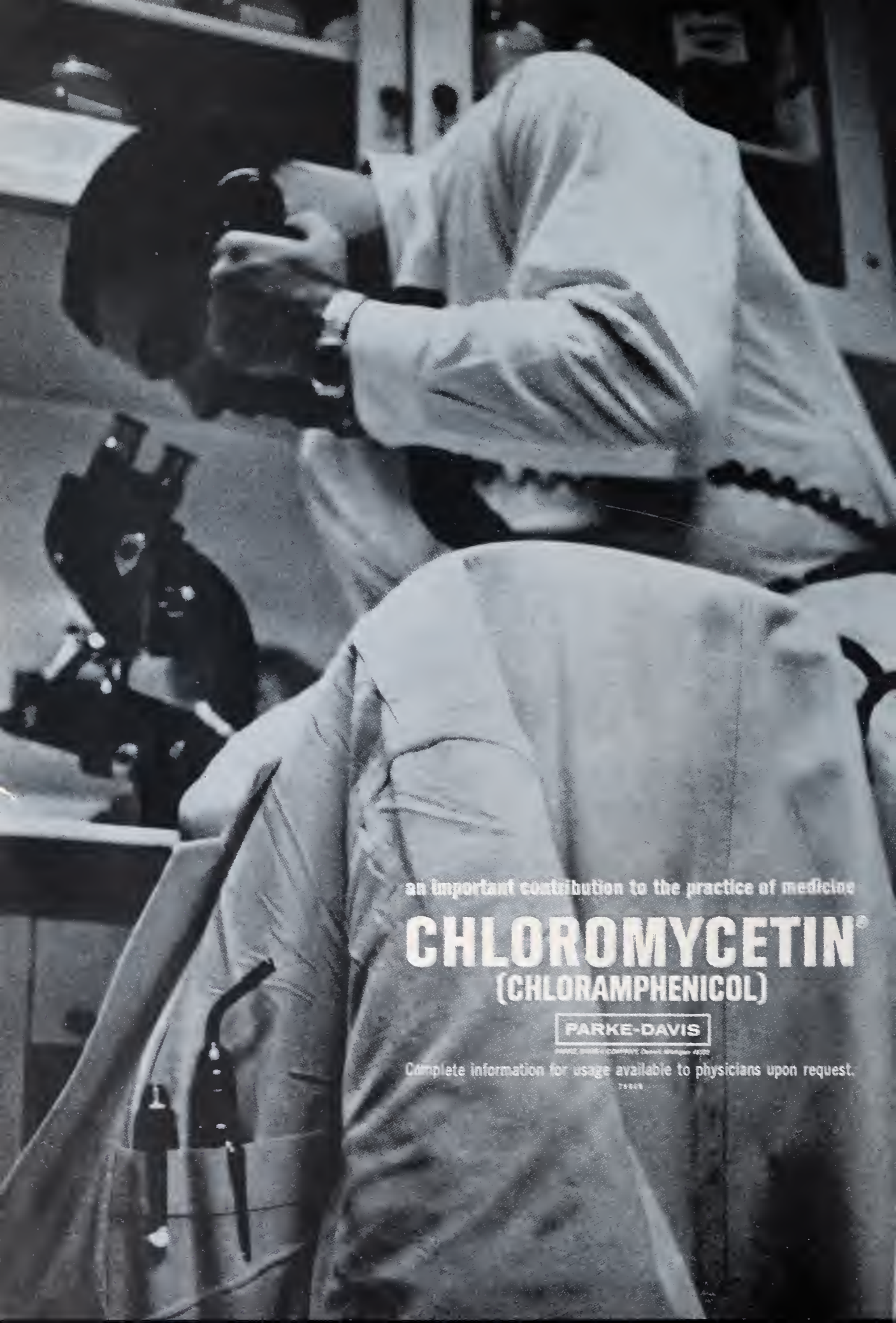
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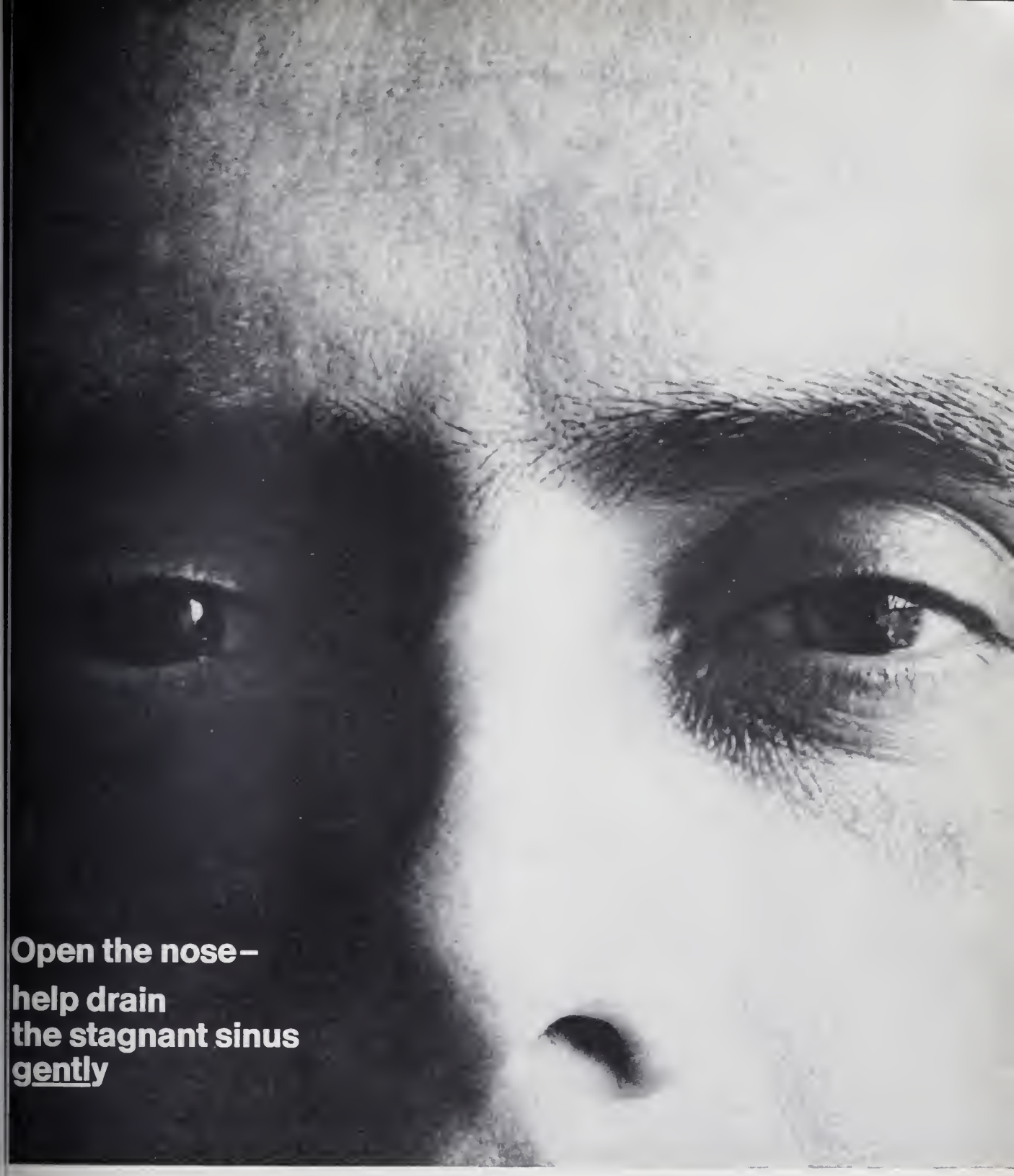
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especially in diabetics or debilitated patients

and in patients with a history of fungal overgrowth—during pregnancy—patients on steroids who require antibiotics—the elderly. The antimonilial specificity of Nystatin plus the extra benefits of DECLOMYCIN Demethylchlortetracycline allow lower mg intake per dose per day, the option of b.i.d. dosage, higher activity levels, 1-2 days' "extra" activity.

Side Effects typical of tetracyclines include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis, dermatitis, overgrowth of nonsusceptible organisms, tooth discoloration (if given during tooth formation) and increased intracranial pressure (in young infants). Also, very rarely, anaphylactoid reaction. Reduce dosage in impaired renal function. Because of reactions to artificial or natural sunlight (even from short exposure and at low dosage), patient should be warned to avoid direct exposure. Stop drug immediately at the first sign of adverse reaction. It should not be taken with high calcium drugs or food; and should not be taken less than one hour before, or two hours after meals.

Average Adult Daily Dosage: four divided doses of 1 capsule each or two divided doses of 2 capsules.

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York
6515-1944

Lederle

DECLOSTATIN®

DECLOMYCIN* Demethylchlortetracycline HCl 150 mg and Nystatin 250,000 units/CAPSULES LEDERLE

with the option of b.i.d. dosage



doing nicely,

thank you. (Father's off somewhere on a cloud.) And thanks to the great advances in medical care in the last 45 years, childbirth today is more an adventure than an ordeal. Pre-natal and post-natal recovery for both mother and child are likewise made easier by some drugs unknown to the profession as little as 10 years ago. In fact, 90% of our 200 most widely used drugs were not in existence before World War II. Should your physician ever prescribe a 'wonder' drug—or any other drug—for you or for any member of your family, Peoples is here to serve you with registered pharmacists on duty seven days a week, 365 days a year.



ALL PEOPLES DRUG STORES FILLED 6,321,215 PRESCRIPTIONS IN 1964...
A MEASURE OF THE TRUST PEOPLE PUT IN PEOPLES!

PEOPLES
PRESCRIPTION DRUG STORES

The tell-tale lesion on the back of her neck



ARISTOCORT Topicals are particularly effective in controlling the inflammatory symptoms of many dermatoses including neurodermatitis, atopic dermatitis, eczematous dermatitis, seborrheic dermatitis and certain cases of psoriasis. The 0.1% Cream or Ointment is usually effective in abating symptoms of skin conditions responsive to topical triamcinolone, but the 0.5% Cream may be preferable in more resistant cases. *Dosage:* Apply small quantity to area 3 or 4 times daily. Side effects are rare. *Contraindications:* tuberculosis of the skin, herpes simplex, chickenpox, and vaccinia. Use with care on infected areas. Do not use in the eyes. Supplied in 5 and 15 Gm. tubes and ½ lb. jars. Also available in foam form and with Neomycin.

Aristocort® TOPICAL CREAM 0.1% AND OINTMENT 0.1%

Triamcinolone Acetonide

LEDERLE LABORATORIES • A Division of American Cyanamid Company, Pearl River, New York

Lederle

630-6



An eminent role in medical practice

- Clinicians throughout the world consider meprobamate a therapeutic standard in the management of anxiety and tension.
- The high safety-efficacy ratio of 'Miltown' has been demonstrated by more than a decade of clinical use.

Miltown® (meprobamate)

Indications: 'Miltown' (meprobamate) is effective in relief of anxiety and tension states. Also as adjunctive therapy when anxiety may be a causative or otherwise disturbing factor. Although not a hypnotic, 'Miltown' fosters normal sleep through both its anti-anxiety and muscle-relaxant properties.

Contraindications: Previous allergic or idiosyncratic reactions to meprobamate or meprobamate-containing drugs.

Precautions: Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of pre-existing symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Usual adult dosage: One or two 400 mg. tablets three times daily. Doses above 2400 mg. daily are not recommended.

Supplied: In two strengths: 400 mg. scored tablets and 200 mg. coated tablets.

Before prescribing, consult package circular.

WALLACE LABORATORIES
Cranbury, N.J.

CM-5761



more complete relief for the "dyspeptic"

DACTILASE®

Dactilase provides comprehensive therapy for a wide range of digestive disorders. Its antispasmodic and anesthetic actions rapidly relieve pain and spasm. Dactilase decreases hypermotility without inducing stasis. In addition, it supplies digestive enzymes to help reduce bloating, belching and flatulence. Dactilase does not interfere with normal digestive secretions. Very often it can be a most useful answer to the dyspeptic's needs.

DACTILASE: Each tablet contains: Dactil® (piperidolate hydrochloride), 50 mg.; Standardized cellulolytic* enzyme, 2 mg.; Standardized amylolytic enzyme, 15 mg.; Standardized proteolytic enzyme, 10 mg.; Pancreatin 3X** (source of lipolytic activity), 100 mg.; Taurocholic acid, 15 mg.

*Need in human nutrition not established. **As acid resistant granules equivalent in activity to 300 mg. Pancreatin N.F.

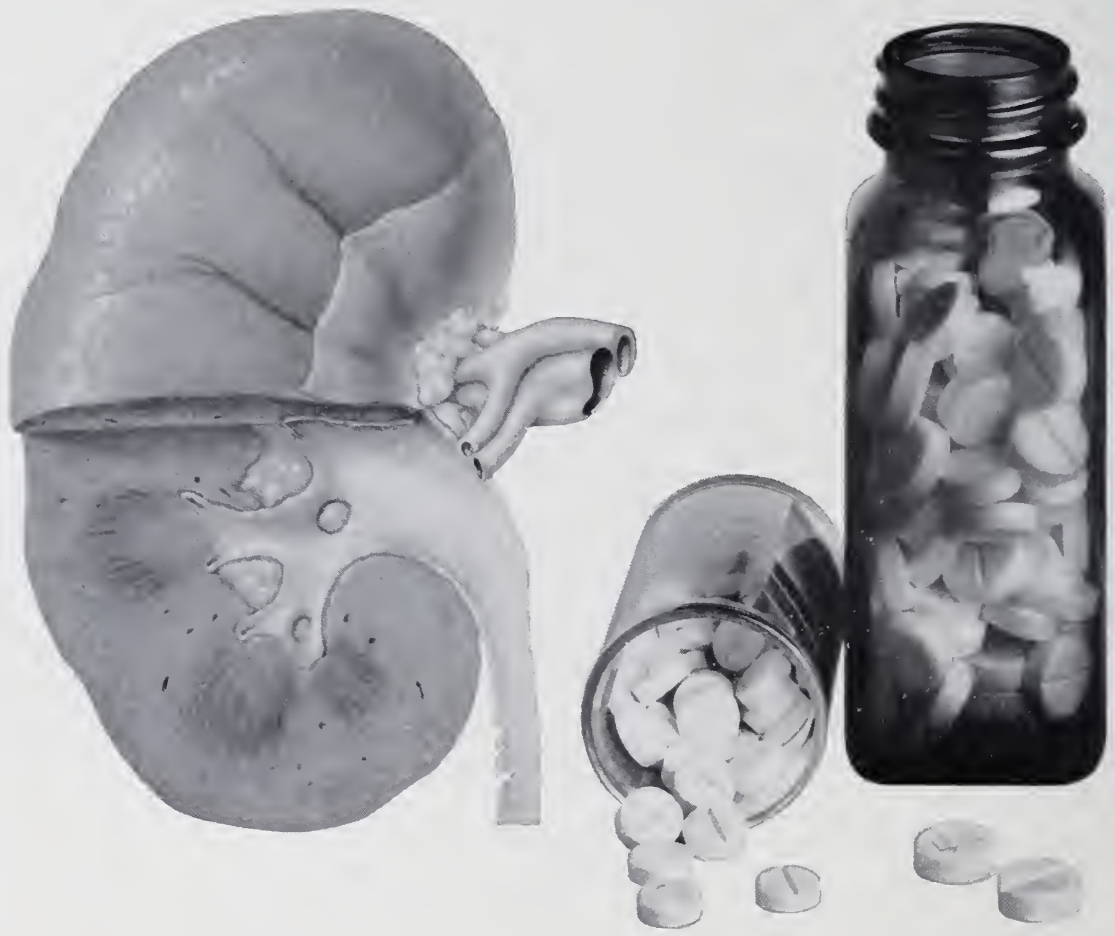
Side Effects and Contraindications: DACTILASE is almost entirely free of side effects. However, it should be withheld in glaucoma and in jaundice due to complete biliary obstruction.

Administration and Dosage: One tablet with, or immediately following each meal. Tablets should be swallowed whole.

Supplied: Bottles of 60 and 250.

LAKESIDE LABORATORIES, INC.
Milwaukee, Wisconsin 53201

at Merck Sharp & Dohme...



understanding... precedes development

The development of chlorothiazide and probenecid were events of major importance, but perhaps even more important for the future was the Renal Research Program by which they were developed. When Merck Sharp & Dohme organized this program in 1943, it was expressing in action some of its basic beliefs about research:

• Many problems connected with renal structure and function were still undefined or unsolved. The Renal Research Program would begin its basic research in some of these problem areas.

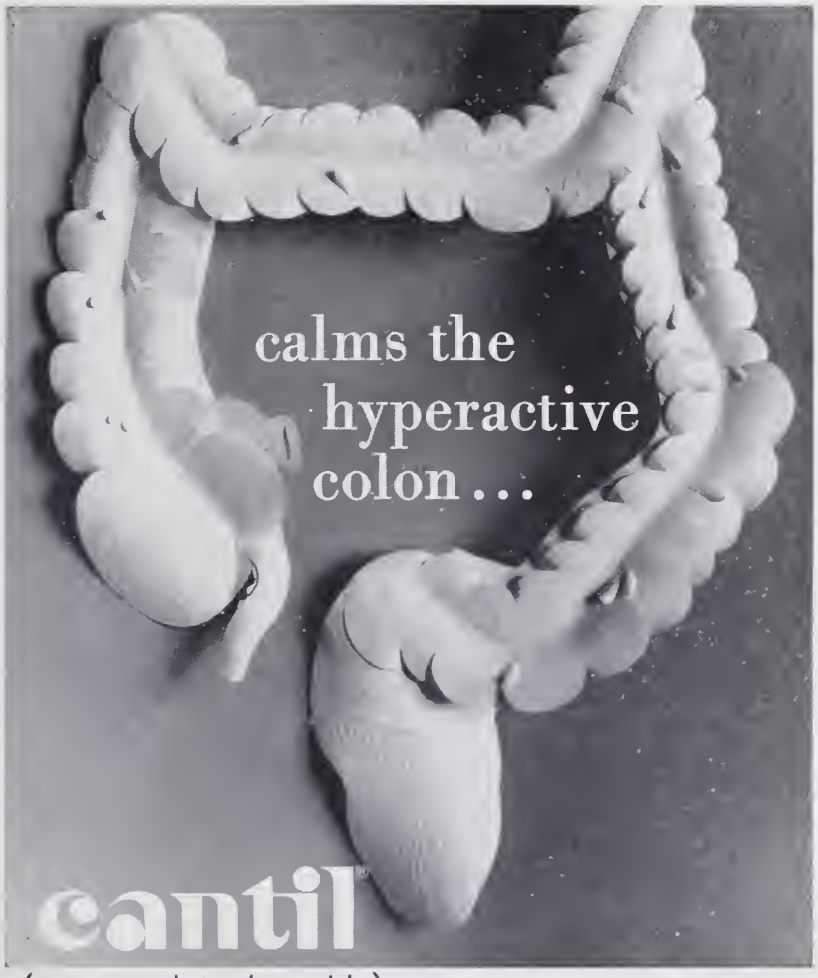
• From knowledge thus acquired might come clues to the development of new therapeutic agents of significant value to the physician.

For example, the Renal Research Program put fifteen years into this search before chlorothiazide became available. But because these years had first led to a greater understanding of basic problems, the desired criteria for chlorothiazide existed before the drug was developed.

Along with other research teams at Merck Sharp & Dohme, the Renal Research Program continues to add new understanding of basic problems—understanding which will lead to important new therapeutic agents.

MSD MERCK SHARP & DOHME Division of Merck & Co., Inc., West Point, Pa

where today's theory is tomorrow's therapy



(mepenzolate bromide)

helps restore normal motility and tone

Cantil (mepenzolate bromide) works in the colon. In irritable colon, spastic colon, ulcerative colitis and other functional and organic colonic disorders, it acts to:

- control diarrhea/constipation
- relieve spasm, cramping, bloating
- make patients more comfortable

with little effect on stomach, bladder or other viscera.

"In 40 of 44 cases of irritable or spastic colon, Cantil [mepenzolate bromide] or Cantil with Phenobarbital reduced or abolished abdominal pain, diarrhea and distention and promoted restoration of normal bowel function . . . Cantil [mepenzolate bromide] proved to be singularly free of anticholinergic side-effects. Blurring of vision or dryness of the mouth were occasionally seen and were usually managed with a reduction in dosage. Urinary retention, noted in two cases was eliminated in one by reducing dosage."[1]

IN BRIEF:

One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth or blurring of vision may occur but it is usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy—withhold in glaucoma. Cantil with Phenobarbital is contraindicated in patients sensitive to phenobarbital.

Supplied: CANTIL (mepenzolate bromide)—25 mg. per scored tablet. Bottles of 100 and 250.

CANTIL with PHENOBARBITAL—containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

1-Riese, J.A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

LAKESIDE LABORATORIES, INC.
Milwaukee, Wisconsin 53201

An antibiotic of choice is one that works

TAO works

Susceptibility Results
Staphylococci [2,3,1]

# OF CULTURES	YEAR	% EFFECTIVE
6,725	1962	88.6%
5,440	1963	88.0%
10,384	1964	88.5%

β-Hemolytic Streptococci [2,3,1]

2,448	1962	89.5%
1,519	1963	95.2%
2,492	1964	96.7%

The Product

In a world study of antibiotics ***in vitro***[1], TAO had an overall effectiveness of 87.3%, higher than chloramphenicol and erythromycin, and significantly higher than tetracycline and penicillin.

The Plus... Consistent Performance

Yet antibiotics must not only work. They must work consistently. Here are the results from the largest study of microbial susceptibility ever undertaken. In 29,048 cultures of overt staphylococcal and β-hemolytic streptococcal infections, note the consistency of results with TAO.

TAO®
[triacetyloleandomycin]

J. B. Roerig and Company, New York, New York 10017
Division, Chas. Pfizer & Co., Inc., Science for the World's Well-Being®

TAO Rx information

Indications: The bacterial spectrum includes: streptococci, staphylocci, pneumococci and gonococci. Recommended for acute, severe infections where adequate sensitivity testing has demonstrated susceptibility to this antibiotic and resistance to less toxic agents. **Contraindications and Precautions:** TAO (triacetyloleandomycin) is not recommended for prophylaxis or in the treatment of infectious processes which may require more than ten days continuous therapy. In view of the possible hepatotoxicity of this drug when therapy beyond ten days proves necessary, other less toxic agents, of course, should be used. If clinical judgement dictates continuation of therapy for longer periods, serial monitoring of liver profile is recommended, and the drug should be discontinued at the first evidence of any form of liver abnormality. It is contraindicated in pre-existing liver disease or dysfunction, and in individuals who have shown hypersensitivity to the drug. Although reactions of an allergic nature are infrequent and seldom severe, those of the anaphylactoid type have occurred on rare occasions. **References**: 1. Isenberg, Henry D.: Health Laboratory Science **2**:163-173 (July) 1965. 2. Fowler, J. Ralph et al: Clinical Medicine **70**:547 (Mar.) 1963. 3. Isenberg, Henry D.: Health Laboratory Science 1:185-256 (July-Aug.) 1964.

when even southern sun fails to warm cold hands and feet

provide rapid, sustained vasodilation for warmth and relief of pain, dizziness and faintness in patients with impaired peripheral circulation

GERILIQUID warms cold hands and feet through the thermogenic action of glycine and through sustained vasodilation by glycine and niacin. In addition, in patients with impaired peripheral circulation, GERILIQUID increases the ability to walk farther with less pain. Patients particularly like the palatable, sherry wine base.

Geriliquid®



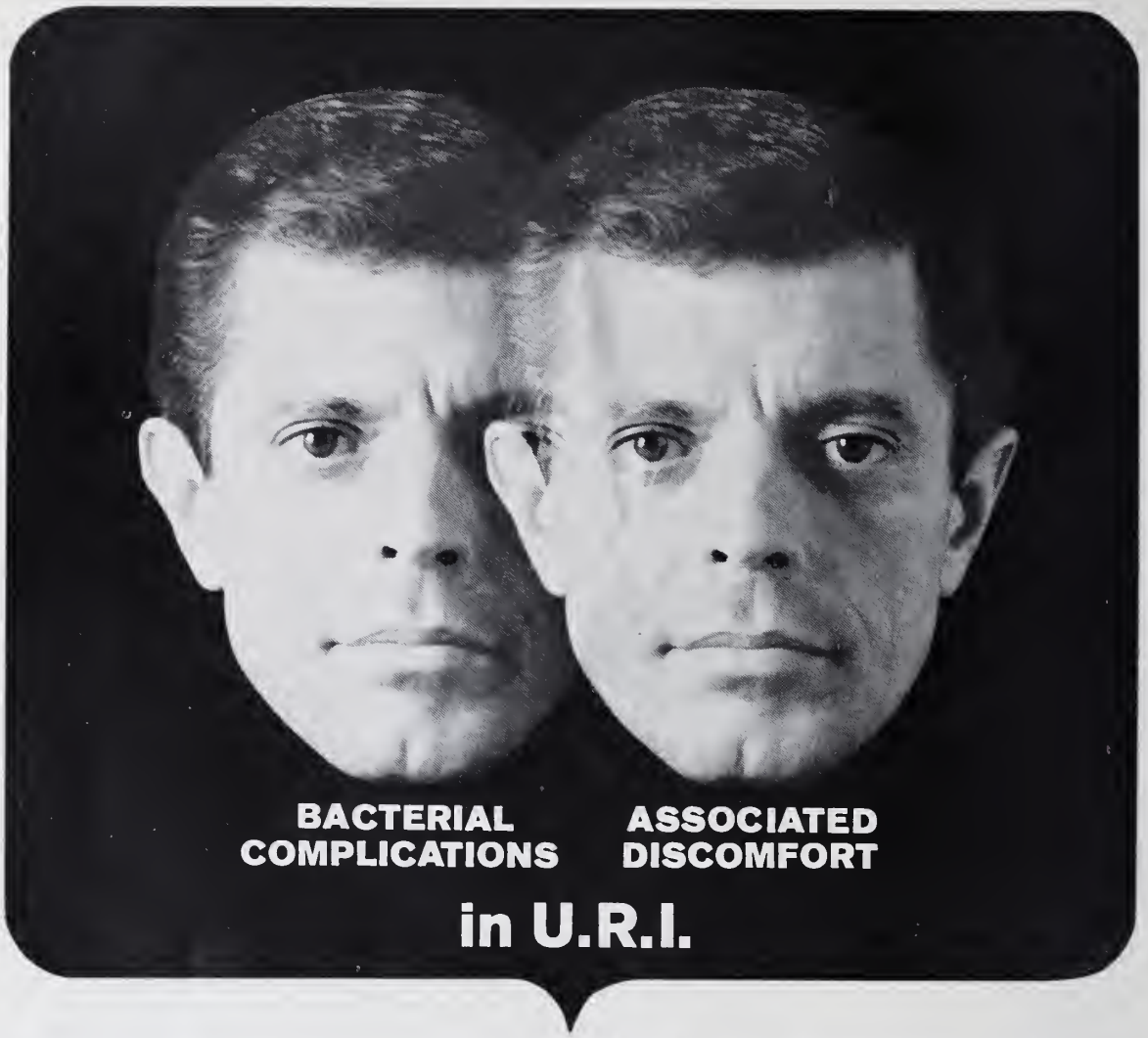
IN BRIEF: Composition: Each 5 ml. contains: niacin 75 mg. and aminoacetic acid (glycine) 750 mg. in a palatable sherry wine base; alcohol 5%.

Side Effects: Occasional lightheadedness or transient itching which may disappear with continued use. There are no known contraindications; however, caution is advised when there is concomitant administration of a coronary vasodilator.

Administration and Dosage: One or two teaspoonfuls 3 times a day before meals. If flushing is objectionable, dosage may be lowered. However, tolerance to flushing usually develops without loss of efficacy in regard to vasodilation.

Supplied: Bottles of 8 oz. and 16 oz.

LAKESIDE LABORATORIES, INC. Milwaukee, Wisconsin 53201



BRING THE TREATMENT TOGETHER
IN A SINGLE PRESCRIPTION

ACHROCIDIN®

Tetracycline HCl-Antihistamine-Analgesic Compound

Each tablet contains:			
ACHROMYCIN® Tetracycline HCl	125 mg	Caffeine	30 mg
Acetophenetidin (Phenacetin)	120 mg	Salicylamide	150 mg
		Chlorothen Citrate	25 mg

Effective in controlling complicating tetracycline-sensitive bacterial infection and providing symptomatic relief in allergic diseases of the upper respiratory tract. Possible side effects include drowsiness, slight gastric distress, anorexia, overgrowth of nonsusceptible organisms, tooth discoloration (if given during tooth formation), photodynamic reaction to sunlight and increased intracranial pressure (in young infants). Average adult dosage: 2 tablets four times daily, given at least one hour before, or two hours after meals. Patient should avoid direct exposure to artificial or natural sunlight; and should not drive a car or operate machinery while on drug. Reduce dosage in impaired renal function. Stop drug immediately at the first sign of adverse reaction.

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, N.Y. Lederle

6085-2911

WHEN MOTHER'S IRON ISN'T UP TO MOTHERHOOD

IN BRIEF: **ACTIONS AND USES:** A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency anemia may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion *as a source of iron;* infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. of elemental iron in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb./100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache, and fever have occasionally been reported. Initial test doses of 0.5 cc. are advisable.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only, it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4; 10 cc. multiple dose vials.

in iron deficiency anemia for rapid and predictable replacement of iron reserves

imferon®

(iron dextran injection)



LAKESIDE LABORATORIES, INC. • Milwaukee, Wisconsin 53201

to help relieve pain in common anorectal disorders

"non-caine" Diothane®

Diothane—with its chemically distinct "non-caine" anesthetic agent diperodon—provides effective temporary topical anesthetic and emollient actions for soothing relief of anorectal pain. Anesthetic activity is effective and relatively prolonged; sensitization is infrequent. Reports to Merrell on 1,500 patients treated pre- and postoperatively with Diothane Ointment, indicate only 22 developed local skin reactions. Reactions to Diothane have been burning or stinging sensations and a few cases of allergic manifestations. An additional advantage: Diothane Ointment and Suppositories are mildly antiseptic. Prescribe or recommend either form...both are now available.

DIOTHANE OINTMENT

COMPOSITION:
diperodon 1.0%; oxyquinoline benzoate 0.1% in a special ointment base.

INDICATIONS:
Provides temporary palliation of pain that may result from hemorrhoidectomy and from common anorectal disorders such as hemorrhoids, anal fissures, pruritus ani.





DIOTHANE SUPPOSITORIES

COMPOSITION:
Each suppository, weighing approximately 2.6 Gm., contains diperodon 1.0%; urea 10.0%; oxyquinoline benzoate 0.1% in a special hydrophilic suppository base. A unique shape keeps the suppository in intimate contact with mucous membranes.

INDICATIONS:
Provide for temporary palliation of pain caused by hemorrhoids and pruritus ani.

Merrell

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215/Weston, Ontario

the price of "success"

190
102

Hypertension has been called the price of success... and in some life-situations, the cost of failure. In either event, Metatensin lowers blood pressure, cushions the patient against stress and retards the progress of disease. Metatensin is effective and economical. It is well-tolerated over long periods.

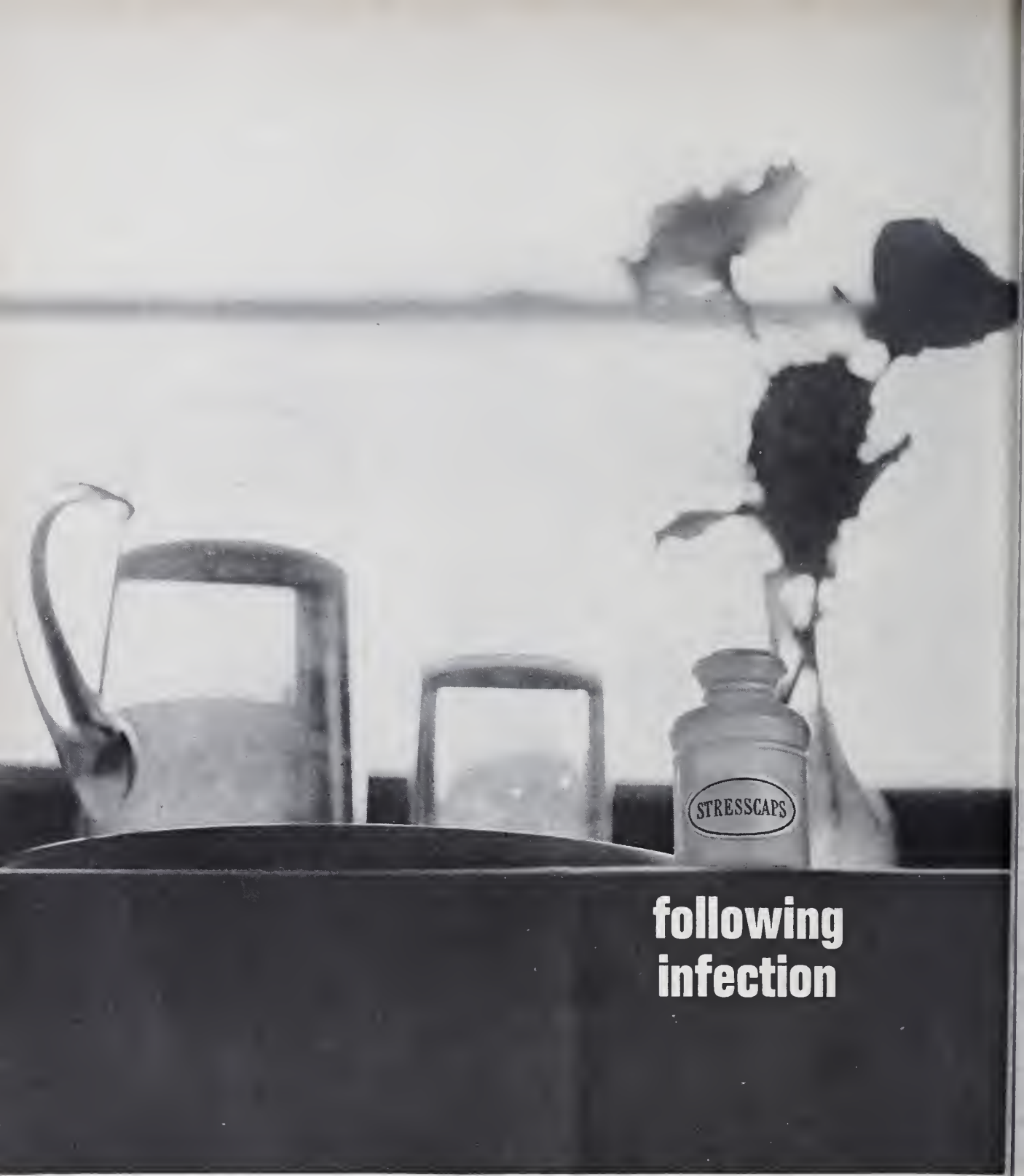
THERAPY
YOU CAN STAY
WITH

METATENSIN®

EACH SCORED TABLET CONTAINS:
Metahydrin® (trichlormethiazide) 2 mg. or 4 mg. Reserpine 0.1 mg.

In Brief: Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing steroids, should be observed for signs of hypokalemia. With thiazides, electrolyte depletion, diabetes, gout, granulopenia, nausea, pancreatitis, cholestatic jaundice, flushing, mild muscle cramps, constipation, photosensitivity, acute myopia, perimacular edema, paresthesias, neonatal bone marrow depression in infants of mothers who received thiazides during pregnancy, skin rash or purpura with or without thrombocytopenia, may occur. With reserpine, untoward effects may include depression, peptic ulcer and bronchial asthma. Withdraw medication at least 7 days prior to electroshock therapy, 2 weeks prior to elective surgery. Contraindications are complete renal shutdown, rising azotemia or development of hyperkalemia or acidosis in severe renal disease.
Supplied: Metatensin tablets, 2 mg., 4 mg. — bottles of 100 and 1000.

LAKESIDE LABORATORIES, INC. Milwaukee, Wisconsin 53201



following infection

STRESSCAPS B and C vitamins in therapeutic amounts...help the body mobilize defenses during convalescence...aid response to primary therapy. The patient with a severe infection, and many others undergoing physiologic stress, may benefit from STRESSCAPS.

Each capsule contains:

Vitamin B_1 (as Thiamine Mononitrate)	10 mg.
Vitamin B_2 (Riboflavin)	10 mg.
Niacinamide	100 mg.
Vitamin C (Ascorbic Acid)	300 mg.
Vitamin B_6 (Pyridoxine HCl)	2 mg.
Vitamin B_{12} Crystalline	4 mcgm.
Calcium Pantothenate	20 mg.

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 (one month's supply) and 100 (three months' supply).

STRESSCAPS®

FOR PROFESSIONAL RECOMMENDATION ONLY

Stress Formula Vitamins Lederle

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY Pearl River, N.Y.

8693-4

Lederle



approximating the diuretic efficacy of meralluride

METAHYDRIN®
(trichlormethiazide)

To determine the relative efficacy of thiazide diuretics in congestive heart failure, Metahydrin (trichlormethiazide) and three other thiazides were measured against Mercuhydrin® (meralluride injection)—the standard diuretic. "The results leave little doubt that the diuretic efficacy, that is, the 'ceiling effect' in these terms, is not the same for different thiazides."* The assays ranged from about 40% of the effectiveness of Mercuhydrin through 67%, 77% to 90% for Metahydrin. The latter two values were thought to be significantly different from the lowest value and to be therapeutically important.

*Gold, H., *et al*: Closed Panel Conference: Present Status of the Management of Congestive Failure and Advances in Diuretic Therapy, Journal of New Drugs, 1:177, July-August, 1961.

LAKESIDE LABORATORIES, INC.
Milwaukee, Wisconsin 53201

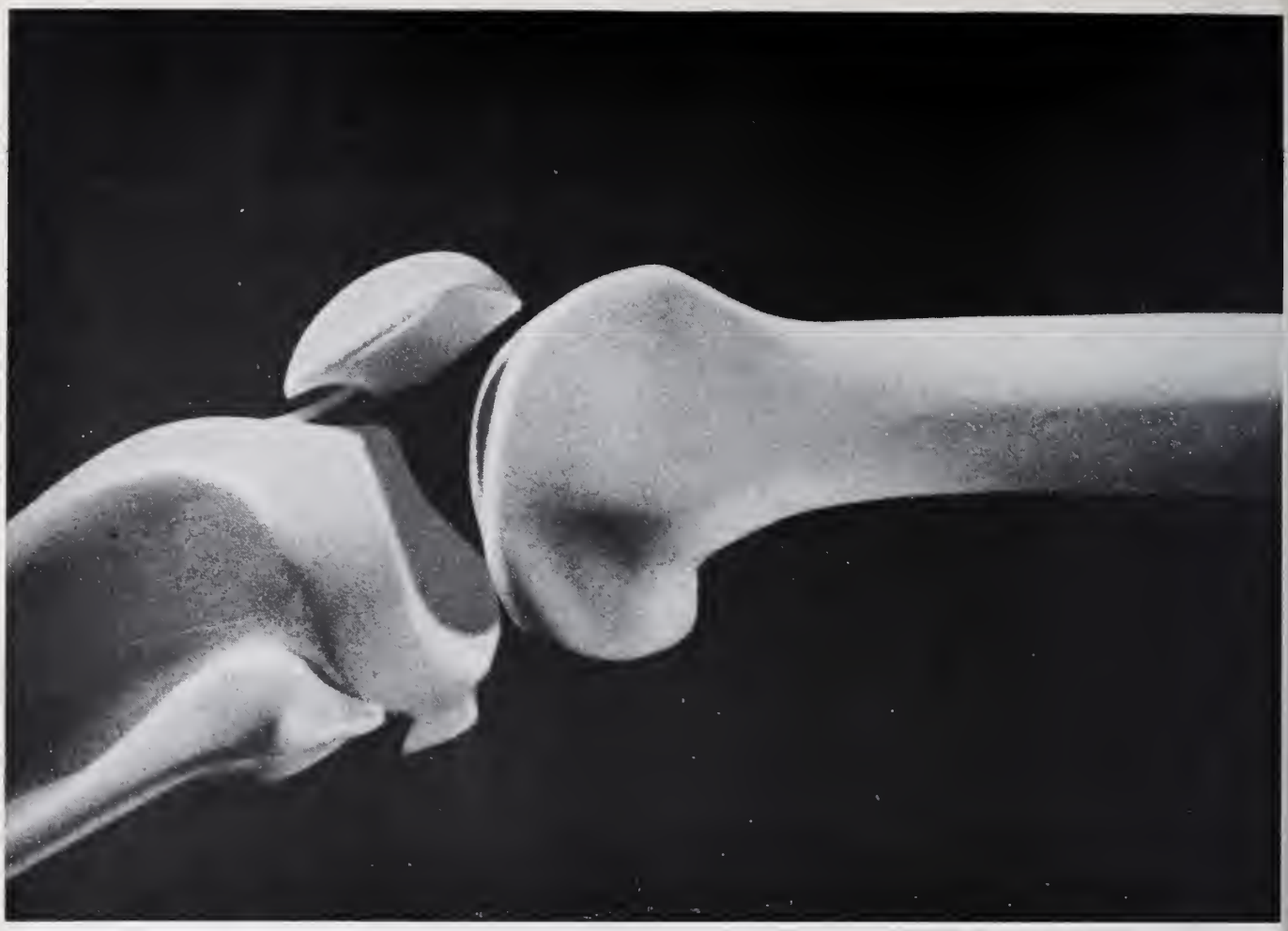
IN BRIEF: ADMINISTRATION AND DOSAGE: One 2 mg. or 4 mg. tablet once or twice daily. In acute, severe decompensation, Mercuhydrin® (meralluride injection) may be necessary initially.

PRECAUTIONS: As with all effective diuretics, vigorous therapy may produce electrolyte depletion. Patients with severely reduced renal function should be observed carefully since thiazides may be contraindicated. Care should be taken with patients predisposed to diabetes or gout. Patients with a tendency to potassium deficiency, as in hepatic cirrhosis or diarrheal syndromes, or those under therapy with digitalis, ACTH, or certain adrenal steroids, also should be watched carefully.

SIDE EFFECTS: Nausea, flushing, constipation, skin rash, muscle cramps and gastric discomfort have been occasionally noted; rarely thrombocytopenia and bone marrow depression, photosensitivity, cholestatic jaundice, pancreatitis, perimacular edema, gout and diabetes have been caused by administration of thiazides.

CONTRAINDICATIONS: Complete renal shutdown; rising azotemia or development of hyperkalemia or acidosis in severe renal disease; demonstrated hypersensitivity.

HOW SUPPLIED: Bottles of 100 and 1000 tablets.



Butazolidin® alka

phenylbutazone	100 mg.
dried aluminum hydroxide gel	100 mg.
magnesium trisilicate	150 mg.
homatropine methylbromide	1.25 mg.

Usually works within 3 to 4 days in osteoarthritis

The trial period need not exceed 1 week. In contrast, the recommended trial period for indomethacin is *at least 1 month.*

That's why it's logical to start therapy with Butazolidin alka—you'll know quickly whether or not it works. And usually, it will.

A large number of investigators have reported major improvement in about 75% of cases. Some patients have gone into remission. Relief of stiffness and pain may be followed quickly by improved function and resolution of other signs of inflammation. And Butazolidin alka is well tolerated, especially since it contains antacids and an antispasmodic to minimize gastric upset.

Contraindications
Edema, danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile, or when other potent drugs are given concurrently. Large doses are contraindicated in patients with glaucoma.

Precautions
Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools. Make regular blood counts. Use greater care in the elderly.

Warning
If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy.

Adverse Reactions
The most common are nausea, edema and drug rash. Hemodilution may cause moderate fall in red cell count. The drug may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, generalized allergic reaction, stomatitis, salivary gland enlargement, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently.

Dosage
The initial daily dosage in adults is 300-600 mg. daily in divided doses. In most instances, 400 mg. daily is sufficient. When improvement occurs, dosage should be decreased to the minimum effective level: this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

Also available: Butazolidin®,
brand of phenylbutazone
Tablets of 100 mg.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York BU-3804 P

Geigy

a rapid lift from the hell of depression



Doré Illustration
from
Dante's Inferno

often relieves mental pain in 2-5 days

NORPRAMIN®
(desipramine hydrochloride)

Norpramin is a rapid-acting specific drug for the treatment of depression. Depressive signs and symptoms—sometimes described as "mental pain"—typically begin to improve in 2-5 days. Patients are more hopeful, less empty and less weighed down by their troubles. Norpramin has only slight sedative qualities, nevertheless anxiety *secondary to depression* is frequently relieved as depression is lifted. If anxiety or tension persists it can be controlled by adding a tranquilizer or by reducing dosage. Norpramin is not a MAO inhibitor. Side effects are usually mild.

DOSAGE AND ADMINISTRATION

Optimal results are obtained at a dosage of about 150 mg./day—two 25 mg. tablets t.i.d. After achieving optimal results, a maintenance dose (50-100 mg./day) should be sought.

LAKESIDE LABORATORIES, INC. Milwaukee, Wisconsin 53201

IN BRIEF:

Indications: In depression of any kind—neurotic and psychotic depressive reactions; manic-depressive or involutional psychotic reactions.

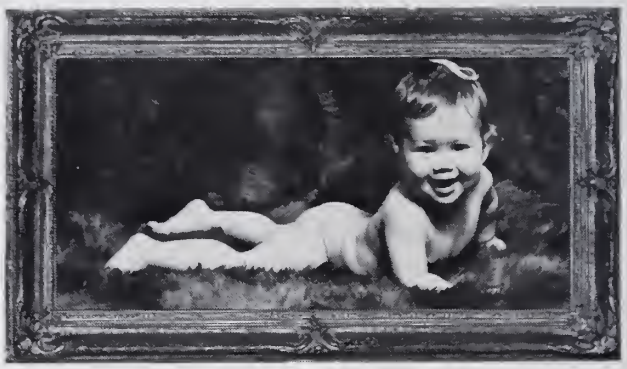
Contraindications and Precautions: Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease and epilepsy. Should not be given within two weeks of treatment with a monoamine oxidase inhibitor. Safety in human pregnancy has not been established.

Adverse Effects: Side effects, usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste," sensory illusion, tinnitus, agitation and stimulation, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, allergy, transient eosinophilia, granulopenia, altered liver function, ataxia and extrapyramidal signs.

Supplied: Norpramin (desipramine hydrochloride) tablets of 25 mg., in bottles of 50, 500 and 1000.

Turn a bundle of colic into a bundle of joy







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1—Pomeranze, J., and Gadek, R.J.: Am. Pract. & Digest Treat. *8*:73-77 (Jan.) 1957

2—Asher, L.M.: Am. J. Digestive Diseases *4*:272 (Apr.) 1959

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Guest Editorial . . .

Child Abuse and The Physician

CHILD ABUSE is a significant cause of disability in young children particularly in the larger urban communities of the United States. Its true incidence is not known but more than 4,000 cases were reported in New York City in 1962; a similar number was reported in Great Britain in the same year. Kempe has suggested that for each reported instance more than 100 additional ones are unsuspected or unrecognized. The cities of Virginia are not exempt from this problem; Norfolk, Richmond and the northern Virginia suburban communities have serious cause for concern about its prevalence.

The highest incidence of child abuse is found in children less than three years of age. In these children the maltreatment may take either the forms of physical "battering" or the features of serious neglect in care, feeding and emotional support. Frequently, children are both physically injured and nutritionally or otherwise neglected. Some victims die as the result of the physical trauma (subdural hematoma, internal chest and abdominal injuries) or of "failure to thrive" (malnutrition and superimposed infection, particularly diarrhea). Others are maimed for life because of organic brain damage. Many will survive only to have the process repeated, sometimes with a fatal outcome.

The family settings in which children are physically abused are worthy of special note. The child is often unwanted; other children in the family are well cared for. The marriage is commonly unstable; the family's economic level is usually low. The abusing parent has a serious personality disorder manifested by a psychopathic, sociopathic, psychotic or alcoholic pattern of behavior; he or she is likely to be immature, impul-

sive, self-centered, and quick to react to adverse situations with poorly controlled physical aggression.

The physician's primary responsibility in child abuse resides in the early recognition of either its flagrant or subtle forms of expression and in immediately instituting measures which result both in healing and in protecting the child from further maltreatment. Usually, hospitalization is the quickest and most effective means of accomplishing these immediate objectives. An oral report of the suspected child abuse should be made promptly to the police department or appropriate children's protective service by the physician and a written statement of his findings and opinion concerning the injuries should follow. In spite of personal indignation and the desire to "see justice done" which child abuse arouses in the physicians, appropriate therapy or punishment for the abuser and the ultimate decisions for the child's protection are best left to those civil authorities who are legally charged with responsibility for such matters.

No law to protect children from abuse will be adequate if it directs attention only to the reporting of suspected cases and to protection of the reporter from litigation by the accused. Clearly, the legislation or its supporting statutes also must provide for the establishing of the necessary protective services to investigate the reported instance of child abuse and to act for the child's protection in a forthright, understanding and constructive manner.

Legislation to clarify the area of the law dealing with child abuse will be given careful study in the 1966 sessions of the Virginia Legislature. Physicians are urged to join with other community leaders in promoting the passage of suitable legislation which will identify and protect the maltreated and abused child.

William E. Laupus, M.D.

Editor's Note: Dr. Laupus is Professor and Chairman of the Department of Pediatrics, Medical College of Virginia, Richmond.

The Abused Child and the Law

ROBERT E. SHEPHERD, JR.
Richmond, Virginia

WITHIN THE LAST FEW YEARS there has been a proliferation of articles in the various medical journals on the problem of child abuse. This paper will attempt to achieve a certain degree of uniqueness by concentrating on the legal aspects of the problem, particularly in Virginia. Although child abuse, involving acts of omission in the form of neglect as well as acts of commission, has been with us since before recorded history, it was not until 1946 that it received any publicity—in an article by Caffey noting the coincidence of long bone fractures and subdural hematomas in small children under circumstances suggesting the possibility of intentional ill-treatment.[1] Caffey's lead was followed by Fontana,[2] Silverman,[3] Bakwin,[4] and Kempe and his associates[5] who have all played significant roles in assessing the extent of the problem and in developing guidelines for the identification of the "abused child" syndrome.

Despite the paucity of statistics, the magnitude of the problem can scarcely be doubted. The Children's Division of the American Humane Association initiated a project in 1962 to glean from the nation's newspapers all cases of child battering reported therein. In that year 662 cases were reported in newspapers in 48 states and the District of Columbia with over 55 percent of the children being under four years of age; 178 children died from their injuries. Dr. Kempe's team surveyed hospitals across the country and uncovered 302 instances of abuse with 33 deaths and 85 cases of permanent brain injury in 71 hospitals during one year. The same survey elicited from 77 District Attorneys the reports of 447 cases with 45 deaths and 29 instances of brain injury in a similar period. In New York City alone, in 1962, over 5,000 dependency and neglect cases came to the attention of the Children's Courts. In that year England's Society for the Prevention of Cruelty to Children dealt with 24,716 cases of neglect and 4,118 cases of abuse. But what about Virginia? Between June of 1963 and January of 1965 the Chief Medical Examiner's Tidewater Division handled fourteen deaths from abuse or neglect. The oldest child was five years old and the youngest was 29 days old. Within the last year, the Medical College of Virginia has handled six suspected cases, all involving children under three years of age. All of these statistics, and those compiled in other local surveys, obviously reveal only the tip of the proverbial iceberg.

It has been postulated that if complete statistics were available, the maltreatment of children could be a more frequent cause of death than leukemia, cystic fibrosis, and muscular dystrophy, and it may rank with automobile accidents and encephalitis as a cause of disturbances of the central nervous system. The emotional and psychological trauma of abuse may take an even more terrible toll than the physical results. Several studies have revealed a high incidence of abuse in the case histories of juvenile delinquents and their more severely anti-social elders.[6]

The law has been every bit as neglectful of these children as their parents. It has been observed, with more than a hint of truth, that the laws dealing with child abuse have been far less numerous and less stringent than the laws pertaining to animal abuse. The classic case of Mary Ellen late

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(This paper was condensed from a more comprehensive article published in the Fall, 1965 issue of the Washington and Lee Law Review.)

in the 19th century pointed up this paradox when the child was finally removed from her abusive caretakers by proceedings under the animal abuse laws on the theory that she was, after all, a member of the animal kingdom when more logical legal approaches had failed.

That paragon of legal authority, Blackstone, pointed out that under Roman law a father had the absolute power of life and death over his children, but that under English law the father "may lawfully correct his child, being under age, in a reasonable manner". In this country the courts have taken two different tacks with respect to the limits of parental discipline. One theory is that the parent is the sole arbiter as to the degree of punishment and, consequently, all punishment is *per se* reasonable which does not result in disfigurement or permanent injury, or is not inflicted maliciously. The second, and majority, approach is best expressed in the language of the Virginia Supreme Court of Appeals in the 1947 case of *Carpenter* v. *Commonwealth* in which the court said that a parent has a "right to punish a child within the bounds of moderation and reason, so long as he does it for the welfare of the child; but that if he exceeds due moderation, he becomes criminally liable." If the punishment inflicted is excessive, the perpetrator may be guilty of either assault and battery, or murder, depending on the result of a malicious or willful beating. However, when an unintentional killing results from an unlawful assault, the usual rule is that the person inflicting the injuries and causing the death is guilty of involuntary manslaughter. Many states now provide penalties for a distinct offense of child abuse. For example, Virginia Code section 40-112, seldom used, pertains to child abuse although it was originally intended to apply as a part of the general scheme of child labor laws.

The problem of neglect is somewhat different from a legal standpoint as it is based largely on statute. However, even without statutory authority it is generally the rule that if a child dies as a result of the parents' failure to provide food, shelter or clothing, and the parents are able to provide these necessities, then the parents may be guilty of manslaughter or, if the deprivation is willful, murder. The recent Virginia case of *Biddle* v. *Commonwealth*, points up the difficulty in establishing willful neglect.

Affording the base for these statutory and commonlaw rules is the principle that the interests of the state as *parens patriae* are superior to the rights of the parents when the child's welfare is in the balance. This principle also forms a backdrop for the primary suggested proposal for meeting the challenge of child abuse—mandatory reporting legislation. Through the 1964 legislative sessions, twenty state legislatures had passed such legislation, and about twenty-seven more have passed laws in 1965, for a total of forty-seven states having reporting legislation. Many of the states have based their statutes on the model act proposed by the Children's Bureau of the Department of Health, Education and Welfare. This model law, quite basically and simply, provides that any physician, intern or resident shall report any injuries to a minor child that he suspects were inflicted by non-accidental means orally, and then in writing, to an appropriate police authority. Anyone participating in good faith in the making of such a report shall have civil and criminal immunity from liability and from participation in any judicial proceeding, and neither the physician-patient privilege nor the husband-wife privilege shall be a ground for excluding evidence. Finally, it provides for a penalty for failure to make such a report.

I feel that such a statute is necessary and desirable from a practical point of view. Theoretically, the statute may be legally unnecessary in Virginia because—1) a physician is already under an ethical and legal duty to make a report pertaining to law violations; 2) the possibility of a successful suit against a physician for defamation

would be quite remote where only facts are stated and no accusations expressed; and 3) the physician-patient privilege does not apply to criminal actions in Virginia.[7] However, unfortunate as it may seem, as in the "Good Samaritan" situation, the statute would have the beneficial result of removing medical trepidations. And the statute would remove the threat of even a claim being made.

I would strongly advocate that the passage of any such legislation be coupled with the enactment of a law providing for protective services to insure that society's concern for the abused child carries on past the reporting stage. This would also tend to deemphasize the punitive aspects of such legislation. The report should be made to the agency charged with the protective services function in the community rather than to a police agency. This is the most controversial aspect of this legislation, and I feel that the primary consideration must be the protection of the child rather than the punishment of the parents. A clause should also provide for immunity from civil and criminal liability. Finally, it is felt that such a statute should not have a penalty provision. The identification of an abused child is obviously not as simple as the recognition of a gunshot wound. Also, such a provision would be realistically unenforceable and therefore useless. The following indices of suspicion may help identify the "battered child": 1) characteristic age (usually under three years); 2) general health of child indicative of neglect; 3) characteristic distribution of fractures; 4) disproportionate amount of soft tissue injury; 5) evidence that injuries occurred at varying times and are in different stages of resolution; 6) implausible causes for recent trauma; 7) suspicious family history; 8) history of previous similar episodes; and 9) absence of new lesions during the child's hospitalization.[8]

Mandatory reporting legislation is not the unanimous choice of all persons concerned about child abuse and it is not a panacea. However, it is a first step, and an essential first step. Unless some action is taken, over 50 percent of these abused children will be liable to secondary injuries or death if returned to their previous environment with no provision for supervision having been made. Many state medical societies have advocated and supported the enactment of reporting legislation, including The Medical Society of Virginia in 1965. The Committee on Maternal and Child Care of the American Medical Association has reported its agreement in principle with the intent of such legislation although they had some reservations about reporting being solely required of physicians, and this report was adopted by the House of Delegates in June of 1964. In April of last year the Virginia Council on Social Welfare recommended the adoption of both reporting legislation and a protective services law.

The whole area of the law dealing with children needs revision and study and it is the obligation of all professions and, indeed, all responsible citizens to take part in this effort. As the Journal of the American Medical Association has expressed it:

> "For centuries the young child has been regarded as a chattel of his parents. By making abortions illegal except under limited circumstances, civilized society now protects the child in utero. It should continue giving adequate protection through the early years of life when the child is still too young to defend himself." [9]

Child abuse is merely one of the most dramatic challenges to society but it may afford the law the opportunity to make a significant first step.

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Mutual Building
Richmond, Virginia

Quote of Note:

"A Democracy cannot exist as a permanent form of Government. It can only exist until the voters discover they can vote themselves largess out of the public treasury. From that moment on the majority always votes for the candidate promising the benefits from the public treasury with the result that Democracy always collapses over a loose fiscal policy, always to be followed by a Dictatorship and then a Monarchy."

Written by Professor Alexander Fraser Tyler nearly two centuries ago. At the time he was writing of the decline and fall of the Athenian Republic over 2,000 years before.

—*The Enterprise Courier*, Charleston, Mo.

Medicine and Religion

PHILIP AUSTIN, M.D.
Alexandria, Virginia

The physician who treats physical disease and even the mental reaction to the physical illness is usually not qualified to treat the complicating spiritual illness. He is wise to obtain the help of a minister in treating this aspect of the total illness.

SOME OF THE AIMS and purposes for which the American Medical Association established the Department of Medicine and Religion in 1961 were discussed at a recent dinner meeting of the Alexandria Medical Society. It was pointed out that one purpose of this department is to explore at a local level the avenues by which these two professions, which are interested in the total health and welfare and well being of people, may be drawn into a closer working relationship for the benefit of the patient. Those concerned felt that there was need for a closer rapport and cooperation, in certain cases, between members of the medical profession and members of the clergy in order to provide a more rounded and complete treatment for the patient considered as a whole man.

It is becoming realized more and more that man is not made up of a physical body, a mind and a spiritual component in three separate and distinct compartments, but that man is a unity composed of these three intertwining and essentially interrelated components which have an important influence and bearing one upon another. It is widely recognized that a weakness or an aberration of any one of these parts, the physical, the mental, or the spiritual may disturb and influence the health and harmony of any of the other parts. The prime purpose of the Department of Medicine and Religion is to create a proper atmosphere for communication between the physician and the clergyman that will lead to the most effective care and treatment of the patient. These two complementary professions working together, when it is felt necessary to treat the patient in the realm of his particular religious faith, may work out a program of treatment best suited to the needs of the whole man. From the collective judgment of members of these two professions, each in his own field, but yet working together, will emerge the most effective means of providing a total treatment for the patient who is not only sick of the palsy in his body, but has become sick of it in his mind and spirit too.

It would appear that in the past these two professions have been traveling along parallel lines, one working for the health of the physical and mental side of man and the other directing his spiritual health. There have been times when these two professions have not worked in close harmony. The medical profession has tended to emphasize treatment of disease, or has stressed the importance of eradicating a disease from a physical body and has tended to neglect or overlook or consider as unimportant the spiritual component of the patient.

It is noteworthy that the medical profession has claimed for itself the responsibility of treating diseases of the body and the mind, that is, of two of the components of the patient, but has held at arms length or politely ignored diseases or aberrations of the spirit of man. As a profession we have clearly recognized the importance of the influence

of mind over body and vice versa. The psyche and the soma have become so closely related in our thinking that we have coined the non-hyphenated adjective psychosomatic to indicate the depth of our conviction of the mind-over-body-over-mind relationship. While we accept and employ therapeutically the concept of the mind influencing the body we have not been willing to consider the tremendously important part which the spiritual component plays in the total health, welfare and social adjustments of the individual.

Psychiatry, which deals broadly with abnormalities of behavior due to disorders of the mind, has emerged as a highly respectable specialty, but it is a medical specialty. The discipline of medicine has claimed this realm of the disordered mind for itself and will only recognize a physician, specialized in psychiatry as capable and competent of treating aberrations of the mind. Where stands the third component? Where stands the spiritual side of man? What have we sought to accomplish in the realm of healing wounded spirits and how do we view the discipline, or related profession which deeply concerns itself with disorders of the spiritual side of man?

Stark it stands, the spiritual side of man, like little Orphan Annie out in the cold. The medical profession, instead of embracing this spiritual orphan and taking her in and claiming her as its own, has contrived to hold her off at arms length, unwilling to welcome her and disdaining to recognize the important part which the spiritual dimension plays in maintaining the whole man, body, mind and spirit in health or in a state of harmony with its environment.

Is it possible that we hold off little spiritual Orphan Annie, and perhaps deliberately play the ostrich trick, pretending we do not see her because in a way we are responsible for her being an orphan? In the words of a modern writer we have killed her father and carried away the corpse. Has modern man murdered God? If we have, it is easy to understand why we do not recognize His spiritual offspring or why we have been blind to the importance of the spiritual dimension and its bearing upon the soma and the psyche.

Through the years of rigorous training we have been taught to use our senses to gather as much information as possible from the patient. Our eyes, our ears, our sense of touch, and on some occasions our sense of taste and smell must be used to elucidate the symptoms and signs which the patient is trying to communicate to us. Our senses are fortified with an abundance of diagnostic laboratory tests; invisible radiations or radioactive particles, electrical instruments which may weigh from a few ounces to a few tons, but unless our own spiritual ear is tuned to that of the patient we will be missing an important factor which could be employed in our armamentarium of healing. This brings us to the question whether we, as individuals, accept the concept of the spiritual dimension of man. We are deeply engrossed in relieving pain in a physical body. We can evaluate the mental outlook of our patient, but when it comes to making contact with his spirit a cloud of haziness appears to separate us from our patient. We may have come to the conclusion, as intelligent, rational men who have carefully thought through this problem that the spiritual side of man does not exist or is of small importance. To some this is scarcely satisfying, but we are entitled to such a conclusion. This is almost certainly not the conviction of our patient. Our patient's feeling, or rather profound conviction, in this regard is deserving of our tolerance and respect. If we have undertaken the responsibility of treating a patient we should at least be willing to recognize his religious convictions and treat them with respect.

Our patient is probably also the parishioner of a clergyman, and in recognizing his spiritual nature and his spiritual needs he may have more of a feeling of rapport with his clergyman than he does with his doctor.

Whereas, he may be willing to expose his physical body for our inspection he is probably willing to lay bare before his clergyman all the innermost secrets and intimacies of his soul. The very part which we, the physician, may deem of small significance, because of our own spiritual myopia, may be the most solemn and sincerely important part to our patient and could be the deciding factor in the healing of the whole man.

One hesitates to use the word soul as though man is the possessor of a certain space occupying something, however vague and vaporous, called his soul, which at the time of death is transported on some ethereal wings to an equally vague and shadowy place called the Heavenly Home, Limbo or Sheol. Man does not possess a soul, requiring space and localization, in the same way that we possess a handkerchief or a watch in our pocket. He *is* his soul. It is the spiritual part of man which can communicate or commune with God and enjoy the fellowship of God. When God calls, it is the spirit of man which responds, but man's spirit is limited by the physical body and can express itself only by the mind and the mental processes and emotions. Man is a unity of a physical body, a functioning mind, and a personal directing spirit endowed with the freedom of choice. It is the inclusion of this third component which makes man different from the beasts.

We are not veterinarians treating animal bodies. We are physicians deeply concerned in the welfare of our fellow human beings. Although a man's body may be patterned after the bodies of animals he is the dignified and proud possessor of a spirit which is made in the image of God. Our concern is to restore a human being who is thrown off balance by the calamity of sickness back to a state of being human in the sense that his body, his mind and his spirit are all restored to a state of harmony with his environment.

It is well known that people react in different ways when the body is diseased. Personality changes ensue when the body suffers prolonged pain or when it is disfigured or deformed. The sweet natured gentle lady who undergoes a mastectomy will sometimes become as unbalanced in her mind as she is in her body. One patient may accept the illness and quickly adjust to it and its implications to himself and his family, whereas another may brood upon it and become introspective, moody, tense, worried with thoughts of suicide going through his mind.

Another patient, lying for days or weeks in a hospital bed will cast back in his mind asking himself why this illness has struck him and not his neighbor or his friend. In seeking the reason for his illness he is basically regarding it as a visitation from the gods in the same way that primitive man did. Research has shown that at least two-thirds of patients with malignant disease, in their brooding and ruminating, are asking themselves, "What wrong did I do to deserve this?" They may ask more bluntly, "What sin did I commit that God is punishing me in this way?" Our patient, though outwardly calm and composed, may have terrible and crushing guilt feelings for some wrong he has done, or imagined he has done and believes he is now reaping the reward for having transgressed some moral law.

At fifty nine, with excruciating abdominal pains from a luetic aortic aneurysm his mind goes back to his more irresponsible days when he was nineteen and in the Navy in the Philippine Islands. His reasoning convinces him that he is now the victim of some divine punishment. The deity is now taking it out on him for his former sins. He is fortified in his conclusions by some ungrammatical home-spun maxim such as, "The wheels of God grind slow but they grind exceeding fine." He is thrown further off balance by feelings of guilt and fears of fiery punishment. The patient, uneasy and restless, tearful, fearful and fretful, knows his spirit is sick and is not in tranquil harmony with the greater spiritual realm. Here is a sickness of the spirit which most definitely requires treatment. As we, the physician, come

blithely to the bedside with thinly veiled small talk of how the elastic tubular dacron graft can replace his aorta and make a new man of him, we do not understand how his innermost spirit is yearning to convey to us or to anyone who can understand its burden of guilt. The clinical picture, however much embellished with diagnostic gadgets, is not merely a man in bed with abdominal pains, a positive serology, and an x-ray showing a bulging aorta. His despair and hopelessness, his guilt, his fears and frustrations can only be painted in by one who has the discerning spiritual eyes. His diseased spirit is in need of relief and release from the burden which is crushing it down. As we turn to leave the bedside our patient still feels the aching void for he has not found in us an understanding attitude or a channel of rapport by which to communicate his need. He has not received from us the help and relief which he most sorely needs. Few physicians would feel qualified to proffer healing to such a wounded spirit.

There are certain to be times when we do recognize the spiritual needs of our patient. At these times it is of little comfort to one who is already loaded with a burden of guilt to search hurriedly through our limited repertoire of scripture verses and come up with some incomplete quotation as, "The wages of sin is death". It must be emphasized that unless the physician feels competent, he must not play the part of a father confessor or go out of his depth or out of his province to try to heal such a deeply wounded spirit. The physician, however well trained he may be in his specialty, will rarely feel confident to guide and direct the treatment of a patient with deep spiritual difficulties. He knows that the spiritual outlook with its attendant feelings of guilt, fear, despair, hopelessness, loneliness, dejection must be cleared, and the patient must be given a new horizon of hope, release, trust, confidence, purpose, faith in a worthwhile world, and an overwhelming will to live. Such an outlook will react on the patient's physical condition to hasten his recovery. The physician who has himself "passed this way" and has experienced for himself the healing of his own spiritual sickness will feel led at times to lead his patient to the same Source of Healing. His desire to share the Bread of Life is understandable and praiseworthy, but again it must be stressed that the physician is not to try to impress his own personal beliefs, convictions, or opinions on one of another faith or on a patient who expresses no desire for help or interest in his spiritual condition.

In most cases the physician will realize the need for a competent spiritual advisor for his patient and will notify the clergyman according to the patient's religious faith or desire. The clergyman, sensing the patient's need, will not compound his misery by incompletely quoting the text we have just mentioned. He will not stop at the comma for he knows the help, inspiration, hope and encouragement which the completed verse can bring. (Romans 6:23) The clergyman is now the specialist, and understanding the etiology and pathology of the patient's spiritual sickness he can outline and direct the treatment. Not claiming to heal diseases of the spirit by his own astuteness, acumen or power, he at least knows how to direct this patient toward the Source of Healing Who can relieve him of his spiritual burden and feeling of guilt.

When the patient has purged his *soul* he will be in a better frame of *mind,* with an easing of tension and consequent lowering of his blood pressure, and therefore a better physical condition to undergo surgery and the dacron graft will indeed make a new man of him. We are all cognizant of the fact that a believing patient who goes to the operating room confidently under an effective protective umbrella of *prayer* and is given, by the knowledge and skill of the anesthetist, nurses and surgeon another effective protective umbrella of *care* is likely to emerge a whole man with a smooth and easy post operative course.

There are, of course, other areas in which the physician and the clergyman will cooperate for the benefit of the patient and his family. At the time of terminal illness when there will be burdens of a personal and economic nature for the family to bear, the clergyman who is the friend and confidante of the family will be of inestimable worth. When babies are born with unexpected congenital abnormalities which have to be accepted and faced up to with a reshuffling of family life and new understandings of parental responsibilities and duties the clergyman can give helpful and understanding advice. With handicapped children, alcoholics, bedridden relatives, suicides, unwed mothers, and those cases which disrupt family life and put a strain on personal relationships and in many other circumstances the clergyman, who is the shepherd of this flock, can be the friend indeed for those in need.

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Computer Becomes a Blood Banker

For several months, a computer has been keeping the records of a large blood bank in Oakland, Calif.—and it's doing a good job, reports the November 8th Journal of the American Medical Association. The system was worked out by the Blood Bank of the Alameda-Contra Costa Medical Association and Lockheed Missiles and Space Company. So far, the computer has been able to reduce the bank's inventory of blood 15 to 20 per cent while continuing to serve 28 hospitals with a total of 4,600 beds. Outdated blood, a costly loss in any blood bank, has been cut from more than 13 per cent of inventory to less than 6 per cent.

The system works this way:

Each of 28 hospitals in a two-county area phones its daily blood consumption total to the blood bank, where the information is punch-coded onto paper tape, and transmitted to the Lockheed computer center 50 miles away. Back from the computer comes a summary of each hospital's report. The computer not only keeps a running total on the blood inventory, but also warns when blood stocks are aging. Losses are cut by transferring this blood to hospitals where it can be used immediately.

Once a week, the computer lists each hospital's average usage by blood type. These reports help reduce inventories to a minimum. A monthly summary outlines the source and use of every pint of blood. Still another report keeps an eye on human error as data are fed to the computer.

It requires 30 people to handle the 34,000 pints of blood dispersed each year by the blood bank. None of these have been replaced by the computer, but they have been relieved of the tedium of routine record-keeping.

The computer system is costly, but its efficiencies should repay these costs if widely applied to blood banking. The system's design appears to be applicable to all blood banks, regardless of size or location.

Authors of the Journal report are David Singman, M.D., Calisto A. Catassi, C.P.A., and Charles R. Smiley, of the Blood Bank; Willard H. Wattenburg, Ph.D., of the Department of Electrical Engineering, University of California, Berkeley, and Eric L. Peterson, M.B.A., Lockheed Missiles and Space Company, Sunnyvale, Calif. (Mr. Smiley is now with Hyland Laboratories, Los Angeles.)

Profileplasty

JOHN B. GORMAN, M.D.
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Correction of deformities of the chin as well as the nose are necessary for a satisfactory cosmetic result.

THE PATIENT with combined nasal and chin deformities can usually be managed at a single sitting.

Because of impaired basal function, this young female had a deviated septum corrected at the time of removal of the nasal hump.



Fig. 1. Deviated nasal septum, rhinokysphosis and chin recession.

The removed nasal hump was used as an autogenous graft to the symphysis of the mandible.



Fig. 2. Immediate postoperative submucous resection (Goldman Technique) Rhinoplasty, chin implant with nasal hump.

A teen age girl had a severe cosmetic problem with severe rhinokyphosis and "Andy Gump" appearance of the chin. (Fig. 3)

Malocclusion was not a problem.

The rhinoplasty was carried out in four surgical steps as usual with satisfactory contour correction.

The rhinoplasty was done under general anesthesia, and because of problems encountered, the chin implant was done at a later date, under local anesthesia allowing this interim photograph. (Fig. 4)



Fig. 3. Rhinokyphosis—Chin recession. Nose function and occlusion satisfactory.



Fig. 4. After rhinoplasty: before chin implant.

More pleasing appearance of the nose, makes the chin deformity even more apparent.

At a second stage, under local anesthesia, an incision was made transversely beneath the posterior symphysis, and the largest (Rish) implant used to complete the profile plasty.



Fig. 5. Following Profile Plasty.

Patients who desire rhinoplasty without further corrections of the profile are at times turned down, due to the failure to obtain pleasing results, when the nose alone is corrected.

The profileplasty is an important part of the armamentarium of facial plastic surgery.

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Basal Cell Carcinoma with Metastases to Bones and Lungs

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Although rare, metastasizing basal cell carcinoma of the skin does occur and has been reported with increasing frequency in the past few years.

METASTASIZING BASAL CELL CARCINOMAS of the skin have been reported with increasing frequency in the past five years.[1-6] This communication reports a case in which metastases from a basal cell carcinoma of the skin were found at necropsy in the lungs, sternum and soft tissues of the neck.

Case Report

A forty-seven year old white surveyor was first admitted to the Veterans Administration Hospital, Richmond, in October 1953, for a small ulceration in the skin of his right ear of one year's duration. Physical examination revealed a superficial ulceration 1 cm. in diameter, just anterior to the tragus of the right ear. A biopsy of the lesion showed basal cell carcinoma (Figs. 1A & B). Treatment with x-irradiation was followed by apparent clinical cure.

Three years later (November 1956) he was readmitted for a recurrence of the ulceration behind the right ear. This was widely excised and a skin graft was performed with apparently good results. Mi-

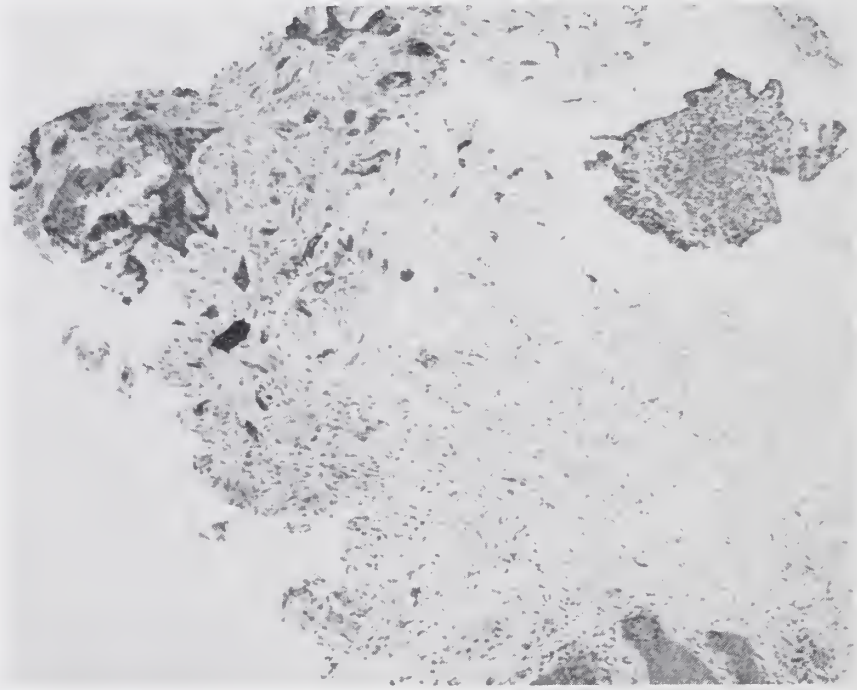


Fig. 1A. The neoplasm in the skin of the ear shows a typical pattern for a basal cell carcinoma. (X50) H & E Stain

croscopically the lesion showed recurrent basal cell carcinoma. In April 1958 and January 1959 he was readmitted for local recurrence of the lesion associated with right facial and right vocal cord paralysis.

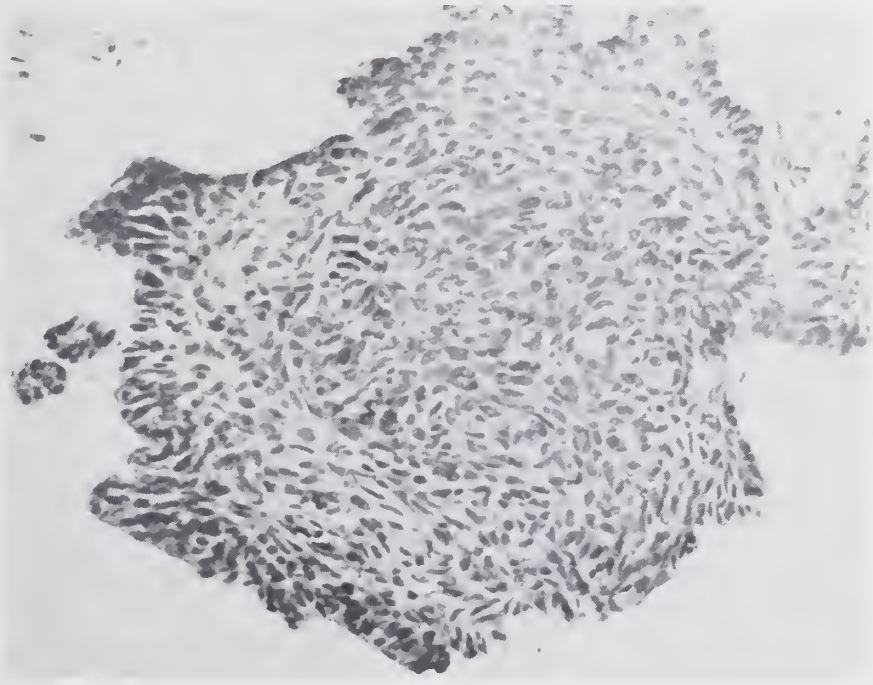


Fig. 1B. Higher magnification of A, shows solid mass of tumor cells with peripheral palisading. (X400) H & E. Stain

Each time the lesion was irradiated with good clinical response.

The patient was readmitted in November 1959 for local recurrence of the lesion. He gave a history of dyspnea, weight loss and weakness. A biopsy again revealed basal cell carcinoma. In January 1960, he was transferred to the National Institute of Health, Bethesda, Maryland, for chemotherapy. A needle biopsy of the left clavicle revealed undifferentiated metastatic carcinoma. A chest film showed nodular lesions in both lungs, interpreted as metastases. The metastases were believed to be from a primary source other than the basal cell carcinoma. He received two courses of methotrexate without apparent benefit. In March he was transferred back to the Veterans Administration Hospital, Richmond, for supportive therapy. He died in June 1960, of profuse hemorrhage from an ulceration of the pharynx.

A complete autopsy was performed. The ulcerative lesion on the right side of the neck just behind the ear extended into and exposed the mastoid process, and extended into the posterior pharyngeal wall, which was apparently the site of the terminal massive hemorrhage. There was no evidence of cervical adenopathy. The right lung weighed 1000 gms. and the cut surface revealed numerous irregular firm areas of organizing pneumonia. The left lung weighed 500 gms. and numerous small abscesses were found on the cut surface. Examination of the sternum revealed several well-circumscribed grayish-white areas, 1 cm. in diameter resembling metastatic lesions. Except for a small chronic gastric ulcer, all other organs appeared normal.

Microscopic examination of the lungs revealed extensive organizing pneumonia. In addition, foci of metastatic basal cell carcinoma were found in the left lung (Fig. 2). The tumor was present subpleurally, in the alveolar spaces, bronchioles, and perivascular and peribronchial lymphatics. The tumor cells were uniform in size with scanty cytoplasm and oval hyperchromatic nuclei. The

cells formed masses and groups with palisaded borders. Histologically identical tumors were seen in sections from the sternum

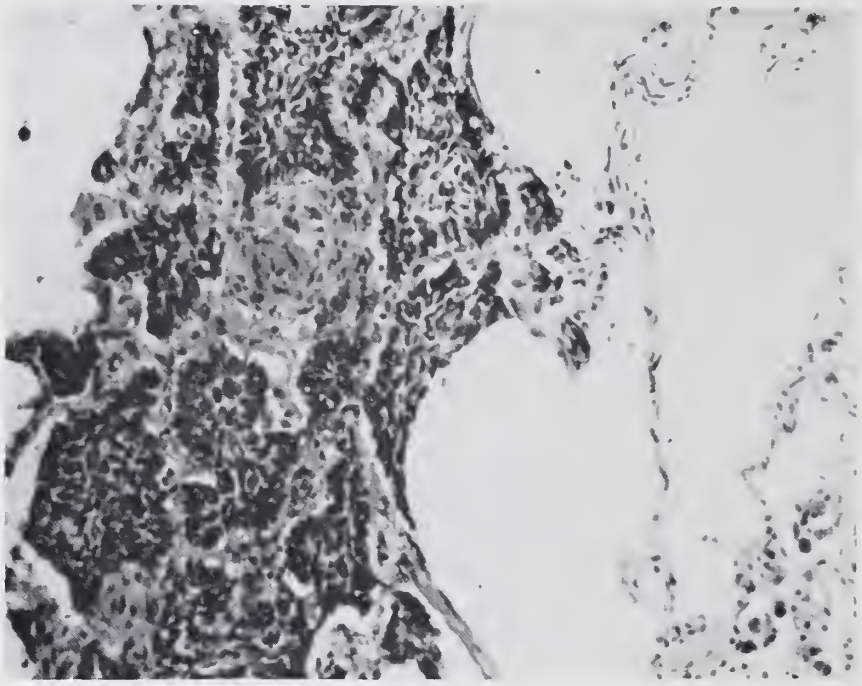


Fig. 2. The metastasis in the lung occupies the alveolar spaces. (X200) H & E Stain.

(Fig. 3) and right neck. These tumors were histologically similar to the primary in the skin of the right ear.

Discussion

The reported incidence of metastasizing basal cell carcinoma is extremely low. In Cotran's[3] series of 9050 cases of basal cell carcinoma of the skin, metastases were found in nine, or 0.1%.

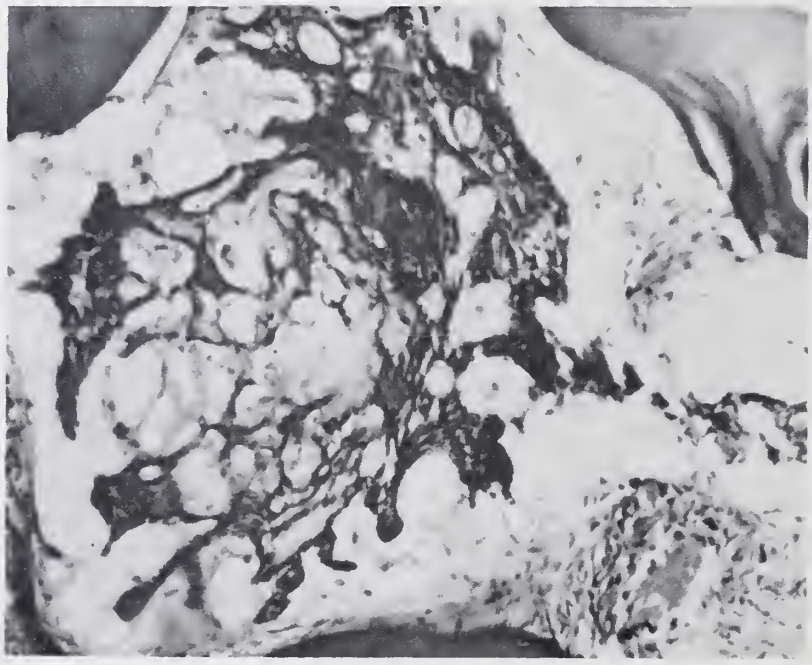


Fig. 3. The metastasis in the bone marrow shows adenoid cystic pattern. (X200) H & E Stain.

The criteria for diagnosing a basal cell carcinoma with metastases were outlined by Lattes and Kessler[1] and Cotran[3] as follows: (1) The primary tumor had to arise in the skin, not the mucous membrane; (2) Metastases must be demonstrated to lymph nodes or viscera; (3) The nature of the tumor from both the primary location and metastases must be verified microscopically by more than one pathologist.

Histologically, further criteria were spelled out by Lattes and Kessler[1]: (1) Neoplastic proliferation of the epithelial cells must resemble that of basal layer of epidermis or of the hair matrix; (2) The cells must be fairly uniform in appearance and arranged in masses with anastomosing strands showing distinct palisading at the periphery; (3) Intercellular bridges should not be seen although keratinization may be present; (4) Cystic degeneration and adenoid cystic patterns are frequently present.

The presently reported case fulfills all of the above criteria. The primary tumor arose from a site common for basal cell carcinomas, the skin of the ear. Three pathologists examined all tissue sections including biopsies and post-mortem specimens and agreed on the diagnosis. The tumor was also registered as a metastasizing basal cell carcinoma by the Armed Forces Institute of Pathology (AFIP No. 623238).

The metastases in the bones and neck occurred by blood stream or lymphatics. The pulmonary metastases in addition may well have occurred following aspiration of tumor cells. As pointed out by Pickred and Katz,[2] in aspiration metastases there must be a route for the neoplastic cells to pass from the primary to the lungs and there must be implantation of tumor cells. In the present case the penetration of the primary tumor to the pharynx provided the direct passage of tumor cells to the lungs, and there is evident infiltration of cartilage-containing bronchi. The intrabronchial spread in mice following intranasal injection of tumor cells has been experimentally demonstrated by Furth.[7]

Summary

A case of basal cell carcinoma with metastases is reported. This case meets the criteria of Lattes and Kessler[1] and Cotran.[3] Since 1894 there have been 38 such cases, including the present case, reported in the medical literature. In the present case aspiration of tumor cells as a possible pathway of metastatic spread to the lungs is considered.

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The Significance of the Parovarian Cyst

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Parovarian cysts should probably be removed when discovered at surgery because of the increased incidence of complications associated with these cysts.

IN CLINICAL REPORTS, parovarian cysts are usually considered in relation to other adnexal cysts or in a general review of mesonephric pathology. The purpose of this paper is to discuss the clinical features seen when parovarian cysts arise. Emphasis will be placed on the complications observed.

The parovarium (epoophoron or organ of Rosenmuller) is a vestigial structure between the tube and the ovary in the mesosalpinx and is the remnant of the proximal end of the mesonephros. The cysts which may arise in this structure are termed parovarian cysts, and have little tendency to become malignant. Grossly, they are separate from the ovary, have the tube stretched over them, and vary from 1 to 15 cm. in diameter. The cyst has a thin, smooth wall except for occasional papulations, and contains clear fluid. Microscopically, the cyst wall contains a single layer of muscle.[9,10] Chemically, parovarian cysts contain almost no protein but exhibit an average osmotic pressure identical to that of plasma, and have chloride levels significantly higher (127 mEq./L.) than plasma levels (102 mEq./L.) or chloride levels of other adnexal cysts.[6]

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Presented at the meeting of the Armed Forces Chapter, American College of Obstetricians and Gynecologists, 27 October 1964, Andrews Air Force Base, Washington, D. C.

Material and Methods

At the Wilford Hall USAF Hospital during the years 1958 through 1963, 238 patients with a final diagnosis of benign adnexal cystic pathology were operated. Table 1 gives the distribution by diagnosis. The incidence of parovarian cysts and tubo-ovarian inflammatory masses among the 238 patients was the same. These diagnoses ranked third in frequency, even ahead of benign cystic teratomas. The clinical features of the 23 patients with parovarian cysts were analyzed in detail.

TABLE 1

DISTRIBUTION OF CASES BY PATHOLOGY

Type	No. cases	Per cent
Functional cysts of ovary	99	41.6
Endometriosis of ovary	45	18.9
Parovarian cyst	23	9.7
Tubo-ovarian inflammation	23	9.7
Teratoma	20	8.4
Serous cystadenoma	11	4.6
Pseudomucinous cystadenoma	7	2.9
Polycystic disease	5	2.1
Miscellaneous	5	2.1
TOTAL	238	100.0

Clinical Features

Table 2 illustrates the characteristics of patients with parovarian cysts. One-half of

TABLE 2

GENERAL DATA AND RESULTS OF PHYSICAL AND CYTOLOGICAL EXAMINATIONS OF 23 PATIENTS WITH PAROVARIAN CYSTS

Data	No patient	Per cent
Age in years		
19 or less	2	9
20-29	10	43
30-39	4	18
40 and over	7	30
Parity		
Nulliparous	10	43.5
One or more pregnancies	13	56.5
Menstrual history		
Normal	13	56.5
Irregular	9	39.0
Pregnant	1	4.5
Symptoms		
Abdominal pain	11	48
No symptoms	9	39
Menstrual irregularities	6	26
Vaginal spotting	3	13
Preoperative diagnosis		
Ovarian cyst	9	39
Adnexal cyst	6	26
Pelvic abscess	3	13
Incidental to surgery	5	22
Location		
Left	14	60.8
Right	8	34.7
Bilateral	1	4.5
Size by diameter		
6 cm. or more	15	65.3
Less than 6 cm.	8	34.7

these patients were 29 years of age or less, and 10 were nulliparous. However, the age factor and the low parity rate are probably reflections of the patient population at this hospital rather than characteristic of patients with parovarian cysts.

One-third of the patients were asymptomatic, i.e., the cysts were discovered on routine pelvic examinations or incidentally at surgery. The most significant complaints were abdominal pain and/or menstrual irregularities. Except for patients with acute torsion, the character of the abdominal pain was dull, aching and recurrent, but with an occasional sharp component. Only one patient was pregnant, and more information will be presented in the report of the patient.

The pathology of the parovarian cysts corresponded to that of previous reports, but three of the cysts had papulations on the inner surface, and one was considered to be "multilocular". Four patients had acute complications with torsion, and one patient presented a rapidly enlarging cyst. The reports of these patients follow.

Reports of Cases

Case 1. B.J.B., a 23-year-old white female, para 0-0-0-0, developed, five days prior to admission, a right lower-quadrant pain which was gradual in onset but became progressively more severe. Rebound tenderness was present over the lower abdomen which contained the mass. Pelvic examination revealed that the uterus was displaced to the right and surrounded by a large mass which was firm in consistency and extended into the cul de sac, filling the entire pelvis. Laparotomy revealed a bluish-red hemorrhagic mass arising from the right adnexa and extending upward into the lower abdomen. Further inspection disclosed that this mass consisted of two separate lobules: one, a large hemorrhagic ovary, 12x14x10 cm., and the other, a parovarian cyst 8 cm. in diameter and on a pedicle. These masses were twisted around each other and rotated approximately 540 degrees.

Case 2. M.E.H., a 23-year-old white female, gravida 1, para 0-0-0-0, at 12 weeks of gestation, had an acute onset of transient abdominal pain one week prior to admission. During the pelvic examination she was found to have left adnexal tenderness. On the day of admission she returned with an acute onset of persistent, severe, left lower-quadrant pain. Examination demonstrated a left lower-quadrant mass with tenderness but no rebound and a uterus 7 cm. above symphysis pubis. Laparotomy revealed that the uterus was compatible with a 12-week pregnancy. The entire left adnexa, which was twisted and infarcted, contained a 7x8 cm. parovarian cyst (on a pedicle), the tube and the ovary.

Case 3. K.C.T., a 13-year-old white fe-

male, para 0-0-0-0, had transient, minimal, right lower-abdominal pain four months prior to admission. Nine days prior to admission, the pain recurred and became persistent as well as more severe. Pelvic examination revealed a firm, tender, cystic mass in the anterior portion of the pelvis. Laparotomy revealed 200 cc. of clear-brownish fluid in the peritoneal cavity. Lying posterior to the left broad ligament was a 7 cm. parovarian cyst arising from the right adnexa. The cyst was twisted on its pedicle and, in turn, twisting the ovary and the tube.

Case 4. F.Y.V., an 18-year-old white female, para 0-0-0-0, five days prior to admission had an onset of crampy, suprapubic, abdominal pain which radiated to the right flank and was associated with nausea, vomiting, and constipation. The pain became bilateral and more severe. She was acutely ill with moderate, diffuse, abdominal tenderness with guarding and rebound, most marked in the suprapubic area and to the right. Pelvic examination revealed a tender cul de sac mass. Laparotomy revealed an 8x8 cm., purple, right parovarian cyst which had twisted on a thin stalk 270 degrees and involved both the ovary and the tube, which were also hemorrhagic and infarcted.

Case 5. F.M.L., a 31-year-old white female, para 3-0-1-3, underwent a total abdominal hysterectomy and a left oophorectomy nine months prior to admission. On a follow-up pelvic examination, a large, asymptomatic, right 12x10 cm. adnexal cyst was discovered. Past medical history of note showed that a left salpingectomy had been performed for an ectopic pregnancy 10 years prior to admission. Laparotomy revealed a 10 cm. parovarian cyst incorporated in a mass which also contained a right 5x6 cm. cystic ovary and a hydrosalpinx.

Discussion

The incidence of torsion among the patients with parovarian cysts was 17.4 per cent compared to an incidence of 2.3 per cent among the 215 other patients with adnexal cysts during this period (Table 3).

Table 3

Incidence of Acute Torsion by Types of Cysts

	Total cases	With acute torsion	
		No.	Per cent
Parovarian cysts	23	4	17.4
Other benign adnexal cysts	215	5	2.3

It has been stated that parovarian cysts are rarely subject to complication because they expand into the leaves of the broad ligament and do not have a pedicle.[10] Ullery[13] observed that a pedicle is present but stated that only infrequently will it become twisted. Therefore, it is of note that our total experience included nine patients with acute adnexal torsion, of whom half had parovarian cysts. The prodromal, intermittent, lower abdominal pain associated with twisted parovarian cysts is referred to by the literature as partial torsion with subsequent untwisting.[2,3] In our series, the propensity of parovarian cysts to undergo acute torsion is eight times that of other benign adnexal cysts. Case 5 illustrates the rapidity with which a parovarian cyst may enlarge.

During the past 15 years, seven cases of parovarian cysts associated with pregnancy were reported.[1,4,7,8,12] Of these, four developed acute torsion of the parovarian cyst. In the Wilford Hall USAF Hospital series, 11 pregnancies were associated with benign adnexal cysts and of these, only one was a parovarian cyst which underwent acute torsion (Case 2). In the remaining 10 cases, only one other cyst underwent torsion. Pescovitz[12] stated that torsion of adnexal cysts during pregnancy occurs three times as often as in the nonpregnant state, and reported a patient with torsion of a parovarian cyst followed by premature labor. Davis[5] stated that torsion of an adnexal cyst during pregnancy may induce labor within several days with loss of the fetus if the torsion occurs prior to viability. However, the patient

(Case 2) had an uncomplicated pregnancy following surgery. Perry,[11] in a review, reported only three cases of parovarian cysts in patients below the age of 17 years; one of these had acute torsion. One of our patients was 13 years of age (Case 3) and another, 18 years (Case 4); both had acute torsion of the parovarian cyst.

Summary and Conclusions

Parovarian cysts were found in approximately 10 per cent of benign adnexal enlargements operated in this hospital; this observation agrees with the literature. Parovarian cysts were associated with pelvic symptoms in 61 per cent of the cases, underwent torsion eight times more frequently than other benign adnexal cysts, and were found to occur at any period during the menstrual age.

In our four patients with acute parovarian torsion, the ovary and the tube were also involved in acute torsion. Inasmuch as the pedicle that twisted involved the infundibulopelvic ligament, the suspensory ligament of the ovary, and the tube, removal of the adnexa was necessitated in each patient.

Because of the increased incidence of torsion as well as the ability of the parovarian cyst to undergo rapid enlargement, it is recommended that all parovarian cysts be removed when discovered at surgery.

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Extrarenal Calyces

Report of a Case and a Review of the Literature

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A case of extrarenal calyces is reported. This is a rare anomaly and has not been reported previously in a child.

IT IS THE PURPOSE of this paper to report the first case of extrarenal calyces found in a child and to review fourteen previously reported cases.

The numerous variations in structure of the pelvo-calyceal system that fall within the limits of normal are common knowledge to all physicians interested in urography. Extrarenal calyces are a structural anomaly frequently associated with renal disease, with other urinary tract anomalies, and can be recognized by standard urographic techniques.

In 1925 Eisendrath[1] reported a case of hydronephrosis in a kidney with extrarenal calyces in which the anomaly was noted following nephrectomy. Eisendrath also mentioned three earlier cases of this anomaly, reported by other workers.

In the first case, the hypoplastic half of a double kidney exhibited extrarenal calyces. The second case was of bilateral extrarenal calyces and the third was a case of extrarenal calyces in one-half of a double kidney.

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Veseen[2] reported the fifth case of this anomaly. In this instance, a nephrectomy had been done for an infected hydronephrosis secondary to a stricture of the ureter at the uretero-pelvic junction. The specimen revealed three calyces coming from the hydronephrotic pelvis.

In 1951 Dunn and Gibson[3] published a case of a hydronephrotic kidney which had six extrarenal calyces. In 1961 Malament, Schwartz, and Nagamatsu[4] reported eight cases of extrarenal calyces. They described the kidney as discoid in shape, flattened in the anterior-posterior diameter, and having an elliptical hilus that covered much of the posterior surface. On x-ray the calyces flared out and then curved inward. Because of these findings a preoperative diagnosis of extrarenal calyces was made in two cases.

In two of the eight cases reported by Malament et al., extrarenal calyces were incidental findings at postmortem; two of the cases had hydronephrosis; one had a perirenal hematoma, and one had renal cysts. Three of the involved kidneys were ectopic.

Case Report

The patient was a seven-year-old Negro girl who was admitted to the Philadelphia General Hospital for her first hospitalization. Six days prior to her admission she started to complain of intermittent low abdominal pain, anorexia, nausea, and vomiting. On the day of admission the patient's father noticed an abdominal mass and brought her to the clinic.

Physical examination revealed a thin, cooperative child in moderate distress from abdominal pain. Her blood pressure was 130/60, her pulse rate was 120, respirations were 25, and she had a temperature of 104° F. The skin was warm with only moderate evidence of dehydration. Other positive findings were limited to the abdomen where a protruding midline suprapubic mass could be seen extending nearly to the umbilicus. The mass was firm to palpation and had the consistency of a tense, distended bladder. Rectally, the mass felt cystic and seemed to fill the pelvis, extending behind the bladder and uterus. On bimanual examination, the mass lay more to the right side and was slightly tender to palpation.

Admission studies were Hgb., 12.6 grams; WBC, 8400 with 46 bands and 43 polymorphonuclear cells for a total of 89% neutrophiles, 5 lymphocytes, 5 monocytes and 1 eosinophile. The urinalysis revealed a specific gravity of 1.030, protein 2 plus, acetone 4 plus, 60-70 WBC/hpf, and a pH of 6. There was no residual urine in the bladder. Blood sugar was 110 mg.%, BUN 15 mg.%, CO_2 14.6 meq/1 and Cl 74.2 meq/L. A supine flat plate showed a pelvic mass of water density.

Upon admission the patient was started on intravenous hydration with 5% dextrose in ¼% normal saline, aspirin, ice packs, and streptomycin. A surgical consultant felt that the patient had an appendiceal abscess, and recommended exploration. Eighteen hours after admission her BUN was 11, Hgb. 12.2, WBC 7650 with 2 metamyelocytes, 64 bands, and 26 polymorphonuclear cells for 92 neutrophiles, 4 lymphocytes, 3 monocytes and 1 basophile. Serum Na was 135 meq/1, K 4.8 meq/1 and Cl 102.5 meq/1. An exploratory laparotomy was then performed and a retroperitoneal pelvic mass was found that resembled a hydronephrotic kidney. No right kidney could be palpated; the left kidney was felt to be normal. An intravenous pyelogram done in the operating room revealed a normal left kidney with no evidence of functioning right renal tissue (Figure 1).



Fig. 1. Intravenous urogram obtained in the operating room shows a normal left kidney with no evidence of functioning right renal tissue.

The blood supply of the mass appeared to rise from the lower aorta. The pedicle was ligated, divided, and the mass removed. The specimen (Figure 2 and 3) revealed a dilated extrarenal pelvis that measured ten centimeters in circumference and eight centimeters in length. The kidney was six centimeters in length, and a three and one-half centimeter cyst was present in the upper pole. The cortex, as would be expected, had undergone hydronephrotic atrophy. This was confirmed by the microscopic examination where the glomeruli and the tubules were both atrophic and fibrotic (Figures 4 and 5). Bacterial culture of a specimen of urine taken from the renal pelvis grew Klebsiella species which was sensitive to Tetracycline.

The patient had an uneventful postoperative course and was discharged on the eighth postoperative day. Follow-up examinations over one year have revealed sterile urines. The child's growth and development have remained normal.

Discussion

The ureter, pelvis, calyces, and collecting tubules are all derived from the distal end of the mesonephric duct, while the glomeruli and convoluted tubules arise from the caudal end of the nephrogenic mesodermal mass. The ureteral bud arises from the mesonephric duct and becomes surrounded



Fig. 2 and Fig. 3. Anterior and posterior views of the operative specimen. 1. Ureteropelvic junction; 2. Renal pelvis; 3. Upper calyx; 4. Middle calyx; 5. Renal tissue; 6. Renal cyst.

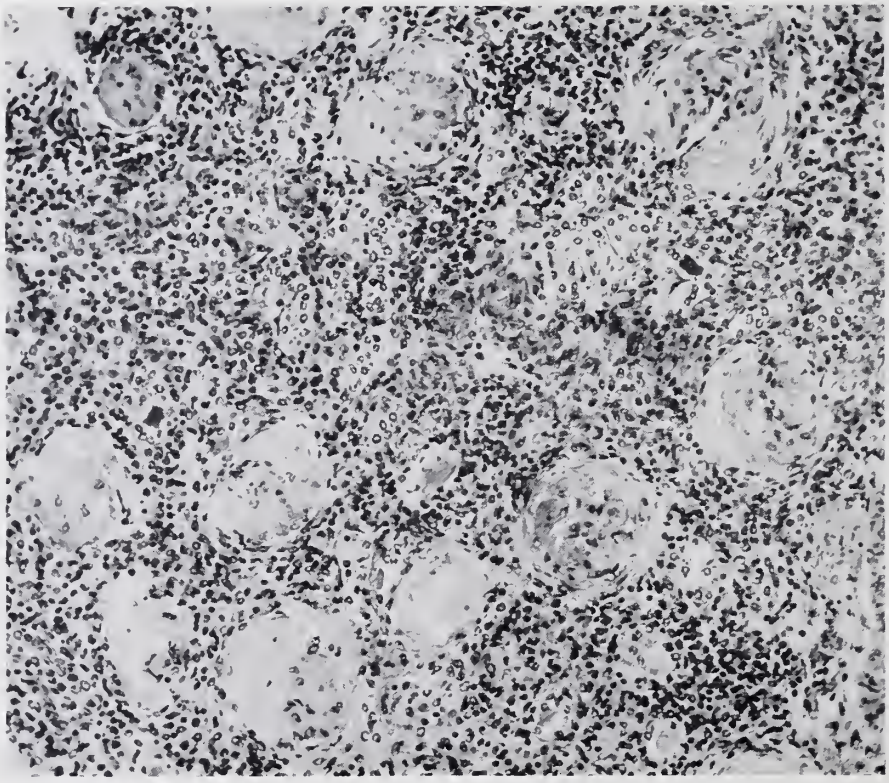
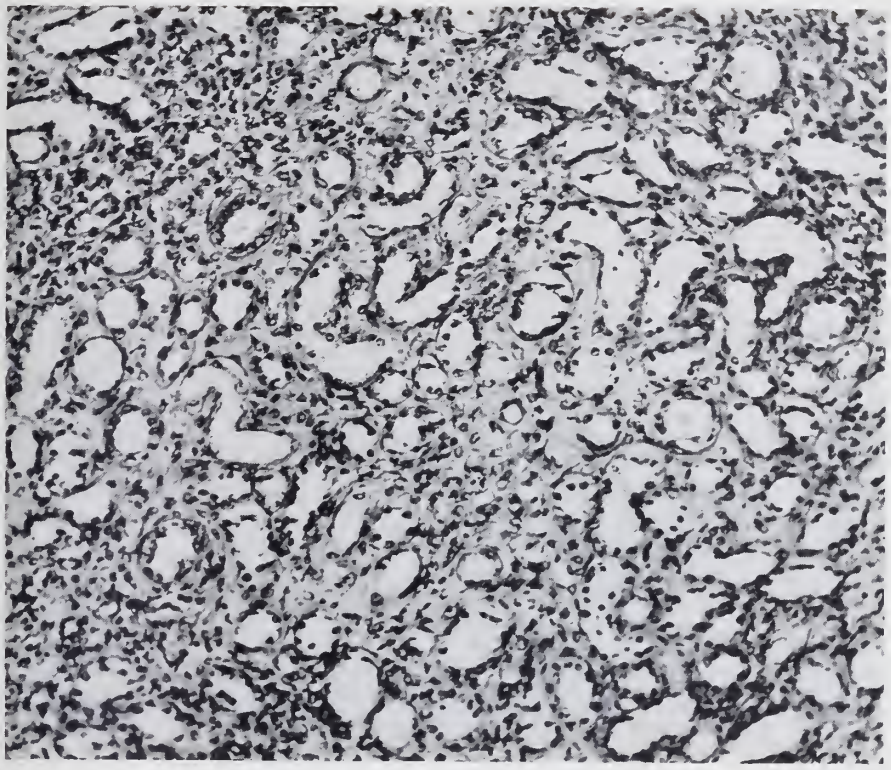


Fig. 4 and Fig. 5. Atrophy and fibrosis of the glomeruli and tubules. H & E x100.



by the nephrogenic mass. As the ureteral bud lengthens, it comes to represent the ureter. The area where the ureteral bud is most closely associated with the nephrogenic cell mass becomes the pelvis. The pelvis then sends buds out into the surrounding nephrogenic tissue to form the calyces.[5] The fact that extrarenal calyces do occur would seem to indicate that the ureteral bud does not need the influence of an investing nephrogenic mass to undergo division, at least into calyces.

Most ectopic kidneys have been reported to have an anomalous blood supply.[5] The normal renal blood supply arises from the upper lumbar aorta while the arterial supply in the ectopic kidney usually is given off by one of the following: the lower aorta, the iliacs, the middle sacral artery, or the inferior mesenteric artery. Frequently the blood supply in the aberrant kidney is multiple.

Since normal ascent of the kidney depends to some degree on an adequate placement of its arterial supply, a short or low origin of the renal artery would impede its ascent. This condition exists in the ectopic pelvic kidney and perhaps accounts for the failure of the kidney to assume its normal position.

It has been reported that in a series of 653 abdominal masses in children, nearly half (43%) were surgical lesions.[6] Of these surgical masses, over 45% arose from the kidney. In this reported series of 653 cases, the kidney was the organ which singly produced more palpable surgical masses than any other abdominal organ or even tract.

An appreciation of the large number of abdominal masses in children that arise from the kidney stresses the importance of the intravenous pyelogram in the evaluation of any such mass. This case also emphasizes that renal masses are not limited to the flanks and should be considered in the differential diagnosis of all abdominal masses in children.

Summary

The first case of extrarenal calyces identified in a child is reported. Also of interest

was the presence of an associated pelvic ectopia with hydronephrosis and a cyst in the upper pole of the involved kidney.

With the addition of this case of extrarenal calyces to the literature, there are seven of a total of fifteen cases with an associated renal anomaly; five of these seven were ectopia. There was an associated renal disease in nine of the fifteen cases, with hydronephrosis being the problem in seven of the nine cases.

A possible embryologic explanation for these anomalies is discussed. The importance of urinary tract evaluation in the diagnosis of any abdominal mass is emphasized.

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Cluster of Diseases

Sufferers from rheumatoid arthritis, peptic ulcer, or tuberculosis are also possible victims of the other two diseases. The discovery that these three diseases form a "cluster," and sometimes strike the same victim, is reported in the September 27th Journal of the American Medical Association.

The same report indicates that the arthritis-peptic ulcer-tuberculosis cluster is "negatively associated" with the disease cluster of obesity, hypertension, and myocardial infarction. In other words, victims of one disease cluster aren't likely to suffer from the other.

Authors of the report are Sidney Cobb, M.D., and William Hall of the Survey Research Center, University of Michigan, Ann Arbor.

For 28 months they periodically examined 244 blue-collar workers, aged 35 to 65. They used two systems of statistical comparison to gauge their medical findings.

None of the disease associations in these men were very strong, but the patterns were so consistent that the disease relationships are believed to be meaningful.

The association between tuberculosis and rheumatoid arthritis seems of particular significance. Five men were found to have tuberculosis, and all five had some evidence of rheumatoid arthritis. In addition, three of the five had probable or definite peptic ulcers. It is highly unlikely that this could have been a coincidence.

Fifteen men who had probable or definite symptoms of rheumatoid arthritis also had strong indications of peptic ulcers. An additional 43 men had a mixture of both arthritis and ulcer symptoms that varied from possible to definite.

Many of the findings about these disease relationships aren't new. What is new is the demonstration that these three diseases cluster together, and that there are now "two well-defined clusters of diseases that are negatively associated with each other."

This study was confined to men employed in a single plant. The authors note that patterns of disease association may vary with sex, ethnic origin, or geography, and that further studies are needed.

Small Bowel Ulceration

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Three more cases of small bowel ulceration apparently caused by enteric coated tablets of hydrochlorothiazide potassium combination are reported.

THE REPORT on small bowel ulceration in the February 22, 1965, issue of the Journal of the American Medical Association prompted me to review three cases of this condition I had operated on in the previous eighteen months. Two of these cases had ulceration with partial obstruction and one had ulceration with perforation and peritonitis. Resection of the involved area of bowel and end-to-end anastomosis was done in each case. Later questioning revealed that all three had been taking an enteric coated tablet of hydrochlorothiazide potassium combination.

Case No. 1—A fifty-eight-year-old white male was admitted to Riverside Hospital by Dr. Jason E. McClellan on October 18, 1963. He had colicky abdominal pain and red blood noted in his stool for four days. He had been in the hospital two months earlier and treated for a hiatus hernia. He had also been under treatment for hypertension for about one year. X-ray showed a partial small bowel obstruction. On October 21, 1963, an exploratory laparotomy was done and an intrinsic constriction found about four feet from the ileocecal valve. This area of the intestine was resected and an end-to-end anastomosis done. (See Fig. 1.) The pathology report was chronic ulcer of the ileum.



Fig. 1

Case No. 2—A thirty-eight-year-old white female was admitted to Riverside Hospital on September 15, 1964, complaining of cramping abdominal pain of about one week's duration. X-rays were essentially negative. She was seen in consultation by Dr. Robert T. Peirce, Jr., who made a diagnosis of partial small bowel obstruction. She was sent home on a diet and antispasmodic without any relief. On October 7, 1964, she was readmitted to the hospital and on October 9, an exploratory laparotomy was done. A circular intrinsic constriction was found about midway between the ligament of Trietz and the ileocecal valve. This area of the intestine was resected and an end-to-end anastomosis done. The pathology report was non-specific chronic ulceration.

Case No. 3—A forty-two-year-old white female was admitted to Riverside Hospital early in the morning of July 23, 1964, with severe abdominal pain of about eighteen hours duration. She was seen in consultation by Dr. G. S. Grier, III. It was soon evident that she had a peritonitis. Later in the day, after gastric suction and I.V. fluids, an exploratory laparotomy was done. There was an early generalized peritonitis. On exam-

Presented at surgical grand rounds, Riverside Hospital, March 22, 1965.

ining the bowel, a small circular perforation was found about 2½ feet proximal to the ileocecal valve. This area of intestine was resected and an end-to-end anastomosis done. The pathology report was focal coagulation necrosis with overlying mucosal ulceration and perforation. The patient had a stormy post-operative course which included an intraperitoneal abscess drained through a separate incision, but went on to complete recovery. On reviewing the x-rays taken on admission, a "pill" was noted in two different locations in the abdomen, and we now believe perforated the ileum and was lying free in the peritoneal cavity. The pill was not recovered at operation as it was thought at that time to be lying within the intestinal tract.

It is a reasonable assumption that these three cases of intestinal ulceration resulted from the administration of enteric coated tablets of thiazide potassium combination. Experiments on dogs indicate that the ulceration results from potassium released from the enteric coated tablet in the small intestine. Potassium should not be given in this form.

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The Presidential Scar

One of the most publicized surgical procedures in history appears to have to come to a successful conclusion. As the last of the "tubes" was being pulled from the presidential incision, a sigh of relief was heard in the land. The relief was twofold. Everyone was happy that the President had pulled through major surgery, with apparently very few ill effects. Another cause for elation also was the cessation of the torrent of so-called news, which went into every gory detail of the presidential illness. Not a burp was overlooked, and the public's "right to know" was satisfied with a fine view of the presidential abdomen, complete with scar and bandage.

We wonder, what has become of decency and decorum in this country? Even if the President was willing to display his operative site to the enquiring photographers, where was the editorial judgment of the publishers and editors of the various publications which printed the pictures, in varying states of enlargement.

Where is the dignity of the presidential office? That office is after all representative of all Americans, whether we voted for the incumbent or not!

As physicians we jealously guard the confidential doctor-patient relationship, and we work diligently to avoid any breach of confidence of our sacred trust. We preach the inviolability of the patient's privacy and we try constantly to avoid embarrassment to the sick and to the public.

Let a shocked medical community express its concern with the reporting of the recent presidential surgery, and let us hope that future illnesses of persons in high public positions will be reported in good taste and in a true spirit of sympathy and understanding.—*Medical Bulletin of Northern Virginia*

Physiological Effects of Golf

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Most cardiac patients can play golf without undue risk. This study will probably be comforting to many physicians as well as their cardiac patients.

WITH EACH PASSING YEAR more individuals become golf enthusiasts. This sport is one of the activities frequently indulged in by the group of people having cardiovascular disease. Since this physician had been asked on many occasions by some of his cardiac patients whether they should be allowed to play, it was felt advisable to see if more specific effects of the game could be ascertained by studying the participants under actual playing conditions. This project took approximately one year to complete and was carried out whenever the weather was feasible.

The investigation was set up so that prior to the start of the contest, laboratory data was obtained. This included a blood cholesterol, blood uric acid, blood sugar, electrocardiogram and urine for 3-methoxy-4-hydroxy mandelic acid. 3-methoxy-4-hydroxy mandelic acid or vanillylmandelic acid (VMA) is one of the breakdown products of epinephrine and norepinephrine which was used as a measurement of catecholamine excretion. The blood pressure and pulse were taken prior to the beginning of the contest and after the completion of each hole. This was performed by three specially trained technicians. Due to the temperament of golfers, the technicians were instructed very carefully to remain out of sight and neither slow nor interfere with the contest in any way except for the brief moment when the data was recorded.

Initially, electrocardiograms were taken by a specially equipped golf cart on the course itself, but this was found to hold up play too long and was abandoned. All five electrocardiograms actually taken out on the course and subsequent electrocardiograms taken before and upon completion of the match were normal. Blood chemistries and urine analyses were repeated at the end of the game.

All the participants except one walked during the entire procedure. They either had caddies or carried their clubs on a cart.

A total of sixty-seven evaluations were carried out. Of this number, forty-four had a diastolic pressure of 100 or better sometime during the event. This was divided as follows:

Number	Diastolic Pressure
23	100
3	105
10	110
1	115
4	120
2	130
1	140

The initial chart summarizes the changes that were found in the blood chemistries of forty-two participants and the urine VMA changes in twenty-three of the players.

Throughout the course of the match, the participants partook of nothing more than carbonated drinks and it was felt that this was not sufficient caloric intake to influence any of the studies.

The second chart demonstrates the number of individuals whose chemical studies showed an increase after the contest. It is

particularly noted that the catecholamine studies were not increased but were decreased.

The contestants were asked a group of questions in an effort to decide the emotional impact of the game on the individual.

People who play golf apparently sleep very well following the day's activity in contrast to individuals who play bridge.

CHART 1.
CHEMICAL STUDIES OBTAINED BEFORE AND AFTER MATCH
(18 holes unless otherwise noted)

CASE NO.	CHOLESTEROL		BLOOD SUGAR		URIC ACID		VMA (Normal 0-12 mg. Per 24 Hours)	
	Before	After	Before	After	Before	After	Before	After
1	157	170	86	106	3.6	4.0	2.1	1.5
2	160	202	72	90	3.8	3.8	0.6	0.6
3	190	190	50	102	3.6	4.3	4.5	4.0
4†	165	180	100	86	3.7	3.8	0.3	0.1
5	134	143	86	153	2.4	2.4	4.0	4.0
6	176	180	97	100	4.05	4.05	0.3	0.3
7	165	170	92	102	2.75	3.15	6.3	5.7
8	165	170	55	97	3.45	3.35	....	3.3
9*	279	335	120	137	3.5	3.7	0.7	0.6
10*	213	218	106	140	2.4	2.6	0.2	0.2
11	208	202	50	125	1.7	2.8	2.2	2.0
12	160	165	97	110	3.5	3.5	2.3	2.0
13	160	160	72	102	3.6	3.7	0.9	0.6
14	285	310	97	97	4.1	4.3	0.06	0.03
15	187	187	86	113	3.6	4.0	0.7	0.3
16	285	255	102	120	3.2	4.0	0.5	0.4
17	176	176	72	103	2.9	3.2	0.1	0.1
18*	208	225	137	102	3.5	3.5	....	....
19*	364	325	178	72	2.9	3.2	....	....
20*	180	180	86	90	2.6	2.7	....	....
21*	170	176	80	100	2.4	2.4	....	....
22*	317	300	100	72	3.4	3.4	....	....
23*	218	244	68	80	2.5	2.5	....	....
24*	270	244	58	68	4.05	4.25	....	....
25*	208	208	130	68	3.9	4.1	....	....
26*	198	218	86	63	3.35	3.95	....	....
27	244	250	80	100	2.75	3.35	....	....
28	165	170	82	86	2.40	2.65	0.3	0.2
29	165	165	80	106	2.68	3.15	....	....
30	157	160	90	102	2.40	2.95	0.6	0.4
31‡	198	202	80	80	....	....	....	....
32‡	190	198	90	100	....	....	....	....
33*	213	202	...	..	4.0	3.6	0.4	0.8
34*	255	225	...	...	3.3	3.4	0.1	0.08
35*	310	310	...	...	4.2	4.3	0.2	0.7
36	...	...	...	...	....	....	0.3	0.3
37	...	...	...	...	....	....	0.5	0.7
59	225	187	82	118	1.8	2.6	....	1.0
60	218	138	80	102	1.9	2.3	....	0.6
61	250	250	160	160	2.0	2.2	....	0.3
62	262	250	120	102	3.3	3.6	....	0.5
63*	285	290	90	125	4.40	4.55	....	....
64‡	176	176	63	60	...	...	....	....
65*	198	218	....	....	3.2	3.4	0.1	....

†Has myasthenia gravis.
*Nine hole match.
‡Six hole match.

CHART 2.

CHOLESTEROL			BLOOD SUGAR			URIC ACID			VMA		
Up	Same	Down	Up	Same	Down	Up	Same	Down	Up	Same	Down
22	10	10	28	3	7	29	8	2	3	6	14

The answers to these questions were in sharp contrast to a similar questionaire given to a group of bridge players.[1]

Possibly the fact that golf is a daytime game and bridge is usually a nocturnal activity, may influence this effect. Also the fact that physical exercise drops the catecholamine while emotional activity such as occurs in bridge would tend to have an opposite effect.[2] It is interesting to note that more people play poorly with their marital part-

ner. They seem to play better with members of the same sex. The placing of a small wager tends to create much more tension in the contest.

In an effort to compare the professional golfer with the amateur, two special four-

Chart 3.

	Yes	No	Undecided	No Answer	Does Not Play	Does Not Bet
1. Do you have trouble sleeping after you have played golf?	2	58				
2. Do you sleep better if you play well?	28	19	12	1		
3. Do you have trouble sleeping if your partner plays poorly?	2	52	6			
4. Do you think much about the game the next day?	36	21				
5. When you play poorly do you find you are depressed for one or more days?	28	31	1			
6. Do you play poorly with your wife or husband as your partner?	15	14	1		30	
7. Do you play better with the same sex?	37	16	5	2		
8. Are you under more tension playing with your wife or husband as your partner against another couple?	13	19	1		27	
9. If a small wager is made, does this create more tension in you?	39	19				2*
10. Do you find you play better when you are playing against certain people?	18	12				
11. Do you find you play worse when you are playing against certain people?	15	15				

*Ministers that were checked.

somes were devised in which the participants were all professionals and played for a purse in a publicized contest. Play on these occasions was accompanied with photographers and a gallery. This was arranged to make the study as closely as possible to simulate the playing environment in which the professional usually performs. The award was given to the team that had the lowest score. It was found that the professionals reacted the same as the "duffer".

Chart 4.

Blood Pressure and Pulse of Professionals

Case No.	Lowest Pulse	Highest Pulse	Lowest Diastolic Pressure	Highest Diastolic Pressure
14	80	120	85	120
15	96	140	60	100
16	90	162	80	110
17	100	128	70	100
59	94	160	70	105
60	86	128	75	100
61	80	120	79	105
62	82	120	80	115

It was felt that teenagers might represent a different type of reaction than adults and two special foursomes were set up. They, too, were offered a prize for the one who won the contest. One of the contestants in this group had myasthenia gravis and performed unbelievably well.

The outstanding feature of these eight players was that the diastolic pressure did not go above 100 but as the contest progressed, their pulse became more rapid and in one instance it reached a rate of 200.

Women golfers who were checked had patterns of elevated blood pressure and pulse rate similar to the reactions found in the male. There were no unique features in either the pulse, blood pressure or laboratory data.

Chart 5.

Blood Pressure and Pulse of Teenagers

Case No.	Lowest Pulse	Highest Pulse	Lowest Diastolic Pressure	Highest Diastolic Pressure
1	96	168	60	82
2	96	176	55	100
3	88	200	60	95
4*	80	100	65	85
55	104	152	79	100
56	112	140	60	90
57	96	140	60	80
58	92	140	58	70

*Had myasthenia gravis.

There were 12 contestants whose initial pressures prior to the beginning of the contest were hypertensive, that is, a diastolic pressure of 100 or better, and 17 upon completion. Of the 12 that were initially hypertensive, six had become normal by the end of the match, thus anticipation of the contest might make the individual's blood pressure temporarily elevated.

The sixth chart reveals the changes in the caddies during the course of the game.

It would appear that a diastolic pressure above 110 would be considered abnormal

and was produced by the tension of the match. It is noted that most of the caddies became hypertensive at sometime during the event from the exercise alone. The caddies were not allowed to bet on the outcome of the event, but, even so, the fact that a winning golfer usually tips better than a losing player may have influenced the emotional pattern of the caddies.

Chart 6.

Case No.	Lowest Pulse	Highest Pulse	Lowest Diastolic Pressure	Highest Diastolic Pressure
68	80	120	70	110
69	80	108	70	100
70	75	130	75	90
71	80	110	80	100
72	95	116	95	110
73	79	92	80	110
74	100	125	100	110
75	100	126	80	100

Discussion

Normally diastolic pressure tends to drop slightly on modest exercise but rises abruptly with severe activity.[3,4] Many of the people tested in the above study were physicians and on quite a few occasions felt that their pressure was elevated, but this was found not to be true. The feeling of agitation or stimulation the player experiences as the result of the golf activity is not due to a rise in blood pressure. It is noted that in the majority of instances, the pressure returned to normal at the end of the contest. Of the thirty-nine participants who became hypertensive during the match, only thirteen were so at the end. If the basic cause in rise of pressure was due to the exercise, it would be expected that the recording should be the highest at the end of the match.

A few cases showed a dangerous rise in diastolic pressure and it would be a very hazardous recommendation by the physician, for an individual whose pressure rises to a diastolic of 120 or higher to play the game. This occurred in seven of the individuals or approximately one out of ten that were checked.

Questioning the patient about his sleep habits and depressive feeling after a golf contest might help to detect the individuals most likely to respond abnormally.

It was noted that five out of eight professionals stated that they were depressed for one or more days whenever they played poorly.

The teenagers were unique, in that no matter how much pressure or exercise was placed on them, abnormal pressures could not be detected. The manifestations of their emotions can possibly be explained by a greater secretion of epinephrine rather than norepinephrine.

It was the impression of the author that the stimulation of the game in the majority of cases was harmless. The effect on the professional was no different than that on the amateur.

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The Persistent Incidence of Pulmonary Emboli

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The autopsy incidence of pulmonary emboli has not decreased during the past thirty years in spite of the increase awareness of the problems and the numerous methods used to prevent the occurrence of emboli.

PHYSICIANS have been much aware of the problem of pulmonary embolism for over thirty years. The prevention of this condition has been attempted by many methods, and progress has been made, both in the diagnosis, and in the treatment of pulmonary emboli. Early ambulation after surgery, anticoagulation, venous ligation or plication, and occasionally heroic pulmonary embolectomy have undoubtedly saved many patients from a fatal pulmonary embolus. The following study was undertaken with the purpose of establishing what impact the above methods of prevention or treatment may have made on the autopsy incidence of pulmonary emboli. Belt's series in 1934[1] forms the baseline for our comparison. Belt discovered 56 cases of pulmonary emboli in 567 consecutive autopsies for an incidence of ten per cent.

In examining the records of anatomical diagnoses in 518 consecutive autopsies performed at the University of Virginia Hospital encompassing the twelve month period from January 1, 1964, through December 31, 1964, we found 54 cases of pulmonary thrombo-emboli for an overall incidence of 10.4 per cent. Table I illustrates

TABLE 1

PULMONARY THROMBO-EMBOLI FOUND IN AN AUTOPSY SERIES AT THE UNIVERSITY OF VIRGINIA HOSPITAL 1964

Service	*Total Autopsies*	*Pul. Thrombi Found*	*%*
Medicine	253	39	15.4
Surgery	137	15	10.9
Pediatrics	66	0	
Coroner's Cases	33	0	
Outside Cases	29	0	
	518	54	10.4 overall incidence

the distribution of these cases. Medical patients outnumbered surgical patients 39:15 in incidence of pulmonary emboli, a fact that has been established in other series.[1,2,4] It is interesting that in Belt's series, medical patients outnumbered surgical patients 40:16.

In Tables II and III we have analyzed

TABLE II

THROMBO-EMBOLI—MEDICAL SERVICE
Median Age: 64 Mean Age: 62.2
Sex Ratio: 1.2 : 1 Female

	Associated Disease	*%*
Cardiovascular Disease	14	35.9
Neoplasm	12	30.8
Infectious Disease	8	20.5
Miscellaneous	5	12.8
	39	

the medical and surgical service cases in order to arrive at predisposing causes and associated diseases. The median age for both groups was 64 years and the mean age approximately the same, indicating that this

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Table III

Thrombo-Embolí—Surgical Service
Median Age: 64 Mean Age: 64.6
Sex Ratio: 4 : 1 Male

	Associated Disease	%
Cardiovascular Disease	5	33.3
Neoplasm	5	33.3
Infectious Disease		
Miscellaneous	5	33.3
	15	

indeed is a problem in the aging population. Israel and Goldstein[6] found that 74 per cent of patients with a clinical diagnosis of pulmonary embolism were over age forty, but that pulmonary embolism was not uncommon under forty. Ninety-one per cent of our patients were above age forty; however two from the medical service were ages 18 and 28, respectively. Men outnumbered women 4:1 in the surgical service cases, and the reverse was true with cases from the medical service where females predominated slightly 1.2:1. Other series consulted[4,10,11] state that sex, race, and season of the year do not seem to be important factors.

Cardiovascular disease and neoplasms were the primary associated diseases in 67 per cent of the total cases discovered at autopsy. Cardiac disease, especially when associated with congestive heart failure, has been considered by many to be the most important predisposing condition for pulmonary embolism and pulmonary infarction.[1,2,4] Congestive heart failure was present in 16, or 29.6 per cent, of our total cases with pulmonary emboli, 11 of these on the medical service, and five on the surgical service.

Table IV tabulates the type of neoplasm associated in the medical and surgical patients. Carcinomas of the lung, colon, tail of the pancreas, and ovary were most frequent in our series. Mustard, Murphy, Rowsell, and Downie[8] postulate that in malignant disease, distant thrombi may be due to release of necrotic tissue, enzymes like trypsin, and materials like tissue thromboplastin

Table IV

Type of Neoplasm	*Medical Service*	*Surgical Service*
Carcinoma of lung	4	1
Carcinoma of colon	1	2
Carcinoma of tail of pancreas	2	
Carcinoma of ovary	1	1
Carcinoma of uterus	1	
Carcinoma of esophagus	1	
Carcinoma of bile duct		1
Carcinoma of breast	1	
Hodgkin's Sarcoma	1	
	12	5

into the circulation. If such is the case it would help to explain the hypercoagulable state described in some patients with neoplastic disease.

Eight patient's from the medical service with pulmonary emboli had an associated infectious disease, with tuberculosis and pneumonia predominating, as seen in Table V. The miscellaneous associated diseases in

Table V

Type of Infection	*Medical Service*
Tuberculosis	3
Pneumonia	3—2 lobar, 1 lobular
Chronic Pyelonephritis	1
Peritonitis	1
	8

both medical and surgical patients included primary amyloidosis, progressive systemic sclerosis, glomerulonephritis, Hammon Rich disease, aplastic anemia, hyperthyroidism, thermal burns, prostatism post transurethral resection, and pseudotumor of the brain post-operative.

One interesting observation was that these 54 patients had a hospitalization that was twice as long as the average length of stay for medical and surgical patients in our hospital during the same time period. Their average hospitalization was 20.3 days compared to the average length of stay of 10 days for medical and surgical patients in 1964. We found no other series where this particular observation was made, though Parker and Smith[9] indicated that prolonged bed rest seemed to be an impor-

tant contributing factor to pulmonary embolism when coupled with an associated disease. Many of our patients were limited to bed rest due to the nature of their underlying disease. One such patient was a sixty-one year old white man who expired with a major pulmonary embolus 14 days after receiving thermal burns amounting to 20 per cent of his body surface. Though he developed no clinical evidence of thrombophlebitis, he had refused to perform leg exercises as instructed by his physicians.

In 19 of these 54 cases, or 35.2 per cent, pulmonary emboli played a significant role in the terminal events, using as our criteria, not the size nor number of emboli at autopsy, but rather sudden or unexpected death, tachycardia or appearance of arrhythmias terminally, circulatory collapse in the absence of hypovolemic shock, dyspnea out of proportion to the underlying disease, and either appearance of or increase in congestive heart failure refractory to therapy. Such findings as pulmonary congestion, edema, or infarction, and right ventricular dilatation on postmortem examination were also helpful. By using these criteria our figures are somewhat higher than those reported by other investigators,[1,5,7,10] but we believe that death in which pulmonary emboli are a significantly contributing factor is often more subtle than generally appreciated.

Summary

The anatomical diagnoses of 518 consecutive autopsies during 1964 at the University of Virginia Hospital are reviewed. Fifty-four cases of pulmonary thromboembolism were discovered making the overall incidence 10.4 per cent. These cases are analyzed from the standpoint of age, primary associated disease, contribution of congestive heart failure, length of hospitalization, and significance in relation to the terminal outcome. Conclusions drawn are that the autopsy incidence of pulmonary emboli has remained essentially the same over the past thirty years, that it is particularly a problem in the aging population, that it is more often associated with cardiovascular and neoplastic disease, and that lengthy hospitalization and bed rest are important contributing factors.

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University of Virginia
Charlottesville, Virginia

Clinicopathological Conference . . . .

Pulmonary and Renal Disease in a Young Male

Medical College of Virginia

Prepared and Edited by
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DISCUSSANTS:

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Richard G. Lester, M.D., Professor and Chairman, Department of Radiology
Fairfield Goodale, M.D., Professor and Chairman, Department of Pathology

Clinical History

The patient was a 29 year old white male who was admitted to the Medical College of Virginia Hospital on 11/3/63 because of shortness of breath and swelling of his legs. The patient stated that he had had asthma all of his life and had required Tedral and Aristocort in the fall of the year for control of his asthma mainly. He had been taking these medications daily for about a month prior to admission. He had noted that following an upper respiratory infection three weeks before admission he had had increasing shortness of breath and his edema became more marked. With this he developed a cough which increased in severity but was nonproductive. Subsequent to this there was severe orthopnea. When he came to the hospital he was acutely short of breath. His total weight gain over the past two weeks had been about 20 pounds. He denied any chest pain, hemoptysis or fever.

A review of systems was essentially negative.

Past medical history was non-contributory. He had had the usual childhood diseases and had asthma all of his life. He had had repeated bouts of contact dermatitis.

Family history revealed that his mother was living and well. His father died of a heart attack. He had two brothers one of whom had had a heart attack and one of whom was "very nervous". Another brother died at birth. His wife was living and well. He had one son age seven who was in good health.

Social history revealed that he was born and reared in Pennsylvania and had graduated from high school. There was no history of excessive use of alcohol or tobacco. He worked as a postal clerk.

Physical examination: B/P 190/40, P. 120, R. 26, T. 100.2°. The patient was a well-developed and well-nourished white male in acute respiratory distress who was severely orthopneic. Pupils were slightly irregular and reacted sluggishly to light and accommodation. The fundi were clear. Mucous membranes were pale and the tongue was dry. There was no venous distention in the neck and the thyroid was not palpable. The chest was symmetrical and the lungs were clear to percussion but showed many fine and medium moist rales throughout both lung fields. The PMI was not palpable because of the thick chest wall but the heart was not thought to be enlarged. There was a ventricular gallop but no significant murmurs. The abdomen was flat and soft and there was tenderness in the right upper quadrant. The liver edge was not definitely felt, but it was thought to be enlarged. Genitalia were negative. The extremities showed 3+ pitting edema of the ankles.

Laboratory work: The urine was yellow, cloudy and acid with a specific gravity of 1.010 and a trace of albumin present. Sugar and acetone were negative. Microscopic examination showed a moderate number of epithelial cells with numerous hyaline and finely granular casts and a few coarsely

granular cellular casts. There were numerous red cells present per HPF and six to 10 white cells per HPF. Hemoglobin was 11.7 gms.%, white count was 8,250 with 80% neutrophils, 1% eosinophils and 19% lymphocytes. BUN 40 mgm.%. Serum sodium was 142 mEq/1, potassium 6.4 mEq/1, serum chlorides 98 mEq/1 and the bicarbonate content was 20. A VDRL was negative. Serum uric acid was 7.7 mgm.%.

A chest film showed a moderate degree of cardiomegaly with changes compatible with marked pulmonary edema in both lung fields. A superimposed bronchopneumonia could not be excluded.

An electrocardiogram showed sinus tachycardia but otherwise normal tracing.

The patient was thought to be in acute pulmonary edema and was digitalized but failed to show very marked clinical improvement. He had to be given bronchodilators at frequent intervals because of asthmatic breathing. Sputum cultures were obtained which failed to show pathogenic organisms. Despite this, antibiotics were added to his regimen with the thought that there was considerable pulmonary infection. He continued to be orthopneic and dyspneic and ran a low grade fever during his entire hospital course.

On 11/8/63 he began to have gross hemoptysis. His gallop rhythm persisted and the rales throughout both lung fields remained unchanged. An attempt was made to lower his blood pressure with intramuscular reserpine. Rotating tourniquets were applied. He had a progressive deterioration in his clinical condition despite some fall in his blood pressure with the intramuscular reserpine.

His BUN on 11/10/63 rose to 63 mgm.%. His serum sodium at this time was 134 mEq/1, serum potassium was 4.8 mEq/1, serum chlorides 102, and CO_2 was 13. He continued with marked respiratory distress with intermittent inspiratory and expiratory rales, wheezes and rhonchi and died at 2:45 a.m. on 11/11/63.

An autopsy was performed.

Clinical Discussion

Dr. W. T. Thompson: Our conference today is concerned with a 29 year old man, asthmatic since birth, who was hospitalized because of rapidly worsening shortness of breath, orthopnea and edema. We are specifically told that this followed an upper respiratory infection. On admission he was noted to be hypertensive, orthopneic, febrile, edematous and had tachycardia. No venous distention was noted in the neck, but, on the other hand, he must have been sitting very nearly upright and it is obvious that a considerable increase in right auricular pressure can be present without manifesting itself in the neck veins if the patient is sitting upright. Rales in the lungs, a ventricular gallop, an enlarged liver and edema fit well with the notation that his weight had risen by 20 pounds in the past two weeks.

I have an idea that his course had been progressively deteriorating over a good many years. We are not given hint of this in the protocol other than that he had required yearly, at least, courses of antihistamines and a steroid and that he had been on these two drugs for the month prior to his hospitalization.

Laboratory work showed a mild anemia. The urine showed casts, white cells, red cells, albumin and modest nitrogen retention. The electrocardiogram showed only sinus tachycardia.

Dr. Lester will show the chest films.

Dr. Richard Lester: These show a rather homogenous, fluffy appearing density which has a parahilar distribution. (Fig. 1) It extends from the hilum superiorly almost to the apex, laterally almost to the bony thorax (of both sides) and inferiorly just about to the bases. We see relative clearing of the most lateral and most distant portions from the hilum. This is the appearance of pulmonary edema.

Dr. Thompson: Would this be in any way suggestive of uremic pneumonitis?

Dr. Lester: Yes, I think so. We say that this is the picture of pulmonary edema. So-

called uremic pneumonitis may be identical in appearance.

Dr. Thompson: He failed to respond to measures designed to control pulmonary edema, bronchial spasm, pulmonary infection and hypertension. He began having gross hemoptysis and died with a modest rise in BUN and with a very mild electrolyte derangement.



Fig. 1. Roentgenogram (PA) of chest, showing fluffy parahilar density.

I understand he did not receive carbonic anhydrase inhibitors. I was trying to explain the CO_2 of 13. As you know carbonic anhydrase is an enzyme that facilitates the association of water and carbon dioxide and makes hydrogen ion available for excretion in the urine with resultant conservation of bicarbonate. If this enzyme is inhibited, bicarbonate is excreted in the urine and a metabolic acidosis is produced. This man had an acid urine. In none of the patients whom we studied did we find a CO_2 below 20.[1] His was 13, he did not have carbonic anhydrase inhibitors, so I threw this out as an explanation for the carbon dioxide level. He does have an anion gap of 19 or 20, i.e., the difference between sodium on the one hand and chloride and bicarbonate on the other, thus raising a question of whether he had a metabolic acidosis secondary to lactic acidemia. In a man who is dying with anoxia and metabolic derangement there may be an accumulation of lactic acid. There is also a possibility that he had retention of sulphates and phosphates as an indication of his falling glomerular filtration rate.

I would like to have had pulmonary function tests. They do not tell where or what the lesion is but they do tell how and to what extent pulmonary function is altered. They can be of aid in choosing, as well as evaluating, therapeutic measures. I am sure that he was too sick for ventilatory studies when he came in. Ventilatory studies at intervals over the years would have given his doctor information as to the progressive deterioration of pulmonary function resulting from repeated infections and exacerbations of his asthma.

The presenting problem of shortness of breath is one of the most interesting as well as one of the most important and most frequently encountered clinical manifestations of disease. Little is known of the basic mechanisms and nature of dyspnea. Differentiation between pulmonary and cardiac dyspnea is sometimes difficult and is particularly crucial when one is dealing with a chronic problem. In general, a person with pulmonary shortness of breath has a longer course, is more apt to have wheezing and a productive cough and is more likely to have shortness of breath related to infection rather than to exertion. The course is more variable, may not be progressive, and is usually not posture related; that is, a patient with pulmonary causes of shortness of breath is not usually orthopneic as persons with cardiac disease frequently are. On the other hand, an individual with extreme shortness of breath, regardless of cause, will get in whatever anatomical position will enable him best to mobilize his muscles of breathing. He will frequently sit up since this increases vital capacity by shifting abdominal organs downward, and allows the diaphragm to function more efficiently. We also see longstanding pulmonary cripples

with a cardiac basis for shortness of breath particularly when the blood volume is expanded. In my opinion, our patient today had right heart failure on the basis of cor pulmonale, pulmonary heart disease, and deteriorating pulmonary function from repeated infections, scarring and loss of lung tissue. Ordinarily, bronchial asthma, unless there is repeated infection, is not associated with pulmonary heart disease. He had left ventricular failure also as manifested by rales in the lungs, an x-ray picture compatible with this, and orthopnea.

Why did this man have asthma since birth? Galens 46th aphorism states that "those hunchback, by cough or wheezing, die before puberty." With an orthopedic deformity such as kyphoscoliosis, a number of disturbances in anatomic structure and function of the thoracic cage will result in progressive, fatal lung disease. I am told that he was well-developed and well-nourished. I mention this just in case the pathologist flashes a picture of Quasimodo upon the screen!

It is unusual that a patient in this age group should die with asthma alone. I am uneasy about attributing his total course to asthma. What about altered immunity? Hypogammaglobulinemia may be suspected in anyone with repeated infections and can be screened very simply. I doubt that he had a dysgammaglobulinemia because we have no evidence of his having lymphosarcoma, lymphatic leukemia or myeloma. Another consideration, in addition to that of altered immunity, is mucoviscidosis. The role of mucoviscidosis in chronic lung disease in adults is becoming recognized.[2] Karlish[3] studied a group of nontuberculous patients with chronic lung disease. Of 33 adults, 11 had positive sweat tests. He concluded that a genetically determined mucoviscidosis factor seems likely to be present in a significant proportion of adults with chronic lung disease and that concomitant pancreatic involvement may be slight or absent. A report in 1961 cited alterations in sweat chlorides in adults.[2] One of the "letters to the editor"[4] in reply to that report pointed out that sweat electrolytes vary a great deal in adults and, indeed, levels which are abnormal in children may be normal in adults. He stressed the fact that an equally important study would be the demonstration of viscid secretions in the duodenal contents with reduced or absent pancreatic enzymes. These may be factors which could have conditioned his pulmonary system to repeated infections. Granted that he had chronic progressive lung disease, could there be other factors responsible for his rapid course with pulmonary failure, gross hemoptysis and renal involvement?

In 1919 Goodpasture[5] described a young man who, when recovering from influenza, had gross pulmonary hemorrhages, anemia, albuminuria and then died. Autopsy revealed marked pulmonary alveolar hemorrhage and proliferative glomerulonephritis. More than 50 cases have been reported in the medical literature since then, the majority since 1955. At the present time "Goodpasture's Syndrome" is used to denote the combination of pulmonary hemorrhage and glomerulonephritis of unknown cause. Benoit[6] recently analyzed 50 cases reported in medical literature together with several of his own and stated that the clinical course consists of hemoptysis, dyspnea, cough, pallor and anemia with a mean of 7.7 gm.% and a variably elevated BUN. He pointed out that these patients could bleed into their lung parenchyma without hemoptysis. The median age was 21 and the males showed a marked predominance in a ratio of 9 to 1. The course varied from 2-168 weeks with a mean of 15 weeks. Twenty-seven of the patients he analyzed died from pulmonary hemorrhage with resultant asphyxia. Twenty-three died of uremia. These latter patients tended to have a longer course with a mean of 24 weeks. He concluded that this is a distinct clinical pathological entity, possibly due to a virus in which autoimmune factors are probably superimposed. DeGowin[7] produced

similar glomerular and lung lesions in dogs by the injection of a lung antiserum. He concluded that this syndrome represented a hypersensitivity state. Rusby and Wilson[8] reviewed patients who bled from the lungs and had renal lesions and stated that idiopathic pulmonary hemosiderosis and Goodpasture's Syndrome differed only in the presence and severity of the renal lesions. Benoit[6] investigated a large group of patients with pulmonary bleeding and determined that he could differentiate clearly between Goodpasture's Syndrome and idiopathic pulmonary hemosiderosis. He attributed this latter disease to a developmental abnormality of pulmonary alveolar epithelial growth. Most of these patients were less than 16 years of age. There was no apparent predeliction for either sex and the lung lesions dominated the clinical and pathologic picture. Some of these patients ran a much longer course with pronounced clubbing, hepatosplenomegaly and under-nutrition. These two entities may represent a spectrum of disease; a kind of Henoch-Schoenlein purpura of the lung.

This patient had had a number of drugs, he had been on steroids, he was hypertensive, he was anemic, he did not have a striking leukocytosis, but he did have involvement of multiple systems. Hence, I challenge anyone on clinical grounds to write off polyarteritis. It is obvious that he did not have idiopathic pulmonary hemosiderosis, Goodpasture's Syndrome or polyarteritis for 29 years. He may have had Goodpasture's or polyarteritis as the cause of his immediate downhill course.

In conclusion, I believe he had intrinsic and extrinsic asthma developing in infancy, perhaps trigged by a viral disease in the early months of life. I think that he had repeated pulmonary infections through the years with progressive scarring, progressive pulmonary disability and progressive lung damage. He had right ventricular failure on the basis of pulmonary hypertension and subsequently developed left ventricular failure related to the stress of hypertension, anoxia and an expanding blood volume. He had a terminal pulmonary infection that may have been characterized by massive bleeding which would be of a smothering asphyxiating nature. It is possible he also had pulmonary infarction. The pulmonary renal terminal state could have been due to a so-called hemorrhagic pulmonary-renal disease, i.e., Goodpasture's disease or even vasculitis.

Dr. Richard Kirkland: This patient was terribly ill and on occasions could barely speak. When I saw him I thought he had something more than simple heart failure and that he probably had Goodpasture's Syndrome. We considered chronic glomerulonephritis. Subsequently the patient had hemoptysis which plus the glomerulonephritis made me think that he had the so-called Goodpasture's Syndrome. We did consider polyarteritis.

Dr. Reno Porter: I read over my notes on this case and apparently I was struck by his respiratory activity. The patient was breathing rapidly, shallowly and entirely diaphragmatically. When asked why he was short of breath he said he couldn't take a deep breath. He acted as if he had trapped air except when you listened to him he had no wheezes whatever. He did not sound like an asthmatic at all. He did not look like a terminal, or even a very sick, asthmatic. He did not have much pulmonary disease. I thought he had chronic glomerulonephritis with an acute exacerbation. Of course this was before he started coughing up blood which made me change my mind.

Ward Diagnosis:

1. *Bronchial asthma*
2. *Pneumonia*
3. *Acute glomerulonephritis*

Dr. W. T. Thompson's Diagnosis:

1. *Bronchial asthma with chronic lung disease and cor pulmonale*
2. *Goodpasture's Syndrome to be ruled out*

Pathological Discussion

Dr. Fairfield Goodale: At autopsy there was 200 ml. of clear fluid in each pleural cavity, but no ascitic fluid. The heart weighed 400 gm. which is in the upper limits of normal for a person this size. Neither ventricles were thickened. The lungs were approximately four times normal weight, 2250 gm., and the tracheobronchial tree was filled with fresh blood. On cutting into the parenchyma it was intensely hemorrhagic. Cultures of the heart and lungs showed no growth. The liver and spleen were not remarkable. The kidneys were not enlarged or edematous, nor did they present a "flea-bitten" appearance resulting from cortical petechiae. However, the prosector remarked that he could see the glomeruli with the naked eye. When those of us who required a microscope had an opportunity to examine the kidneys, it was obvious that all glomeruli were indeed considerably enlarged and very hypercellular. (Fig. 2) Swollen endothelial cells were compressing and in many instances obliterating capillary spaces and each glomerulus contained many neutrophils. There was minimal swelling of the epithelial cells lining Bowman's space. Occasional very early crescent formation was present. These then are the changes of a relatively early acute proliferative glomerulonephritis. The tubules, blood vessels and interstitium of the kidneys were unremarkable.

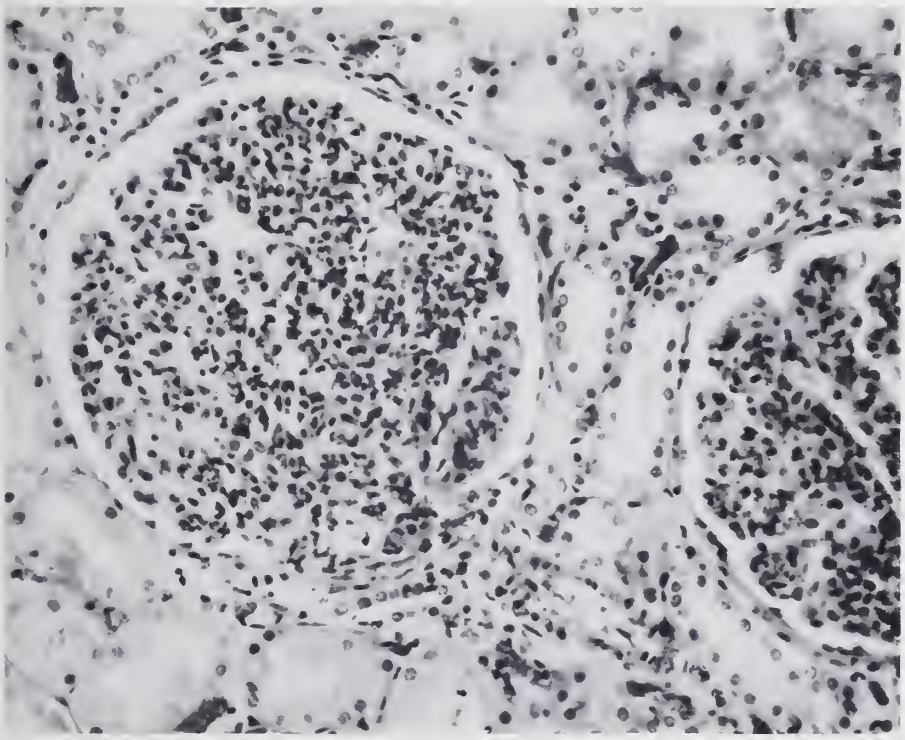


Fig. 2. Marked hypercellularity in swollen glomeruli. Neutrophils are present in the glomeruli. (Hematoxylin and eosin, approx. 250 x)

Microscopically, the lungs showed hemorrhage into the alveoli of all lobes of such severity that effective ventilation must have been markedly reduced. (Fig. 3) There was no fibrosis to indicate a chronic pulmonary problem. Some alveoli were lined by thin strands of eosinophilic material, in effect hyaline membranes. Around the bronchi and bronchioles were the changes of asthma: an excess of smooth muscle, an infiltrate of chronic inflammatory cells with a number of eosinophils, increased mucus production by the lining epithelium and thickened basement membranes.

The combination of pulmonary and renal

changes seen in today's patient are those first described by Goodpasture[5] in 1919. Dr. Thompson has covered thoroughly the clinical aspects of Goodpasture's Syndrome. The typical patient is a young male and the initial symptom frequently hemoptysis, followed by a pulmonary infiltrate which is usually visible by x-ray. The infiltrate tends to be diffuse and not near the hilum as is often the case with uremic pneumonitis. Half of the patients die of uremia, half die of suffocation following massive pulmonary hemorrhage. Fifteen weeks is the average duration of life. Benoit[6] correlated the rash of reported cases in 1956-58 with the influenza epidemic and suggested influenza as a possible cause.

In his original paper,[5] Dr. Goodpasture discussed two patients with pulmonary problems and he suggested that the virus of influenza was the etiologic agent in both cases. One patient was very similar to today's patient. He had hemoptysis, pulmonary infiltrates, anemia and renal problems and at autopsy massive hemorrhage in the lungs with acute glomerulonephritis.

The etiology of Goodpasture's Syndrome is still not known but two possibilities which have been suggested are influenzal and an autoimmune process which might indicate common antigenic properties of lung and renal tissue.

Pathology Diagnosis:

1. *Pulmonary hemorrhage and acute glomerulonephritis (Goodpasture's Syndrome)*
2. *Bronchial asthma*

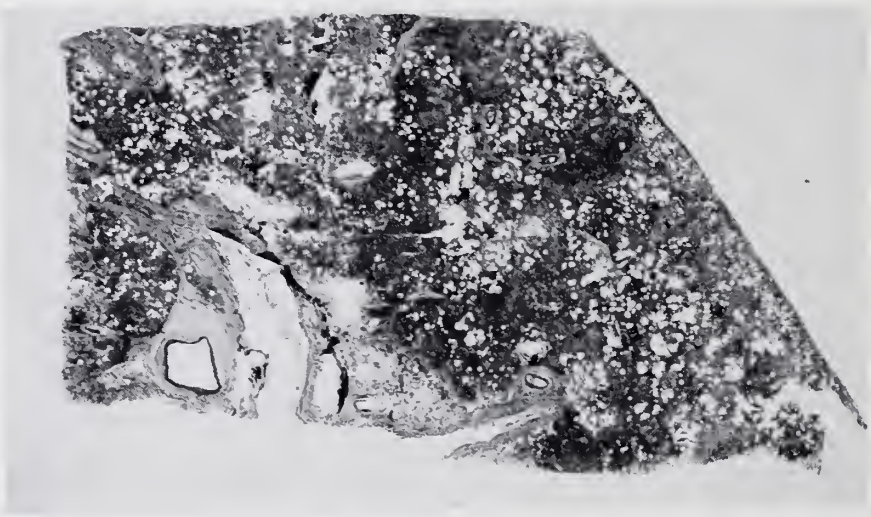


Fig. 3. Lung: Diffuse recent and organizing hemorrhage filling most of the alveolar spaces. (Enlarged from 3 X)

Dr. Thompson's Concluding Remarks:

A CPC essayist has the very real advantage, which the doctor caring for the patient does not have, of knowing that the patient has a disease process that causes demonstrable tissue changes and is fatal. He has the disadvantage of seeing the patient through someone else's eyes with the picture painted in words. He is forced to play percentages as he interprets the case history, recognizing that all percentages are tenuous at best in a CPC.

This playing of percentages prompted my postulating that the primary terminal process was chronic lung disease and cor pulmonale, with Goodpasture's Syndrome as a possibility, rather than putting my money solely on Goodpasture's:

1. Although this patient was in a young age group, we are all too familiar with the

clinical entity of progressive lung disease, cor pulmonale, and respiratory infection as a terminal event.

2. The overall incidence of edema as reported in a series of 52 cases of Goodpasture's Syndrome was 29%. There were only three cases (6%) who had edema early in the course of the disease, and 12 (23%) who had edema terminally.

I was impressed by the presence of edema reported in the protocol, a point against Goodpasture's, but Goodpasture's best explained the massive pulmonary hemorrhage.

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Silver Conservation

X-ray film may become more expensive in future years, and may even be rationed in some instances. This is because world supplies of silver are being used faster than new silver is being produced, says an article in the November 1st Journal of the American Medical Association. Silver halide is required in x-ray film and other photographic processes.

Conservation of silver and more efficient methods of recovering it from film processing are suggested by the article's author, Robert A. Wilson, M.D., of the Martin X-Ray and Radium Clinic and the Department of Radiology, Southwestern Medical School and of the University of Texas, Dallas.

In 1964, free-world consumption of silver was about 550 million troy ounces. New production was about 215 million troy ounces. Most of the difference came from U.S. silver stocks.

Even if the U.S. had produced no silver coins in 1964, free-world consumption would have exceeded silver production by 133 million troy ounces.

There are substitutes for conventional x-ray procedures, but they all demand greater radiation exposure of the patient or give poor image resolution or both.

"The United States has been a land of plenty for so many years that it may be difficult to re-establish an ethic of conservation. However, if a satisfactory substitute for silver is not found, then conservation may become increasingly important in future years."

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

The Licensed Practical Nurse in Public Health

That there are an inadequate number of professional nurses is apparent. Fully cognizant that the shortage will grow, leaders in nursing have used "action" programs to alleviate the critical situation. One important phase of these programs is training of more practical nurses. This is based upon the evidence that practical nurses, given appropriate training, can render much-needed assistance to professional nurses and hence to patient care. This is particularly true in the field of public health nursing.

At the present time the State Department of Health is employing seven practical nurses in local health departments and sixty-two in the four Sanatoria—Piedmont, Blue Ridge, Catawba and Ennion G. Williams.

The concept of using practical nurses in a public health nursing program is not new. Visiting Nurse Associations and official agencies offering bedside nursing programs have been employing these nurses for a number of years.

The State Department of Health began employing practical nurses (in other than the sanatoria) in 1962 to work in areas where there are home nursing programs. These nurses work under the supervision of the public health nurses in a manner similar to the relationship of a practical nurse to a nursing supervisor in the hospital setting. As the Department's home care nursing program extends to other areas, it is anticipated that more practical nurses will be utilized.

When first employed, the practical nurse receives an orientation in public health through supervised practice in a comprehensive program including medical care and preventive services. She learns the relationship of nursing service to the total health department program and, in addition, develops skills in working with individuals and families. The extent of the orientation varies depending upon the educational background and nursing experience of the individual nurse. Working under supervision of the Director of the Local Health Department and the public health nurse, the practical nurse performs home nursing services to patients with long term illness and assists the public health nurse in other services requiring home nursing care.

Some of her typical duties are administering treatments and medications, taking blood pressure, instructing patients in self-care and demonstrating procedures in bathing babies, the aged and chronically ill infirm persons. In addition to giving physical care to patients in the home, the practical nurse keeps in mind other factors which influence the health and well-being of the patient and his family. When the practical nurse observes situations potentially detrimental to the patient or health of his family, she informs the public health nurse who takes any necessary action.

A licensed practical nurse on the staff of a local health department can make an important contribution to the care of patients in their homes when the duties assigned her are within the scope of her training and experience and when there is adequate supervision by the professional nursing staff.

Current Currents

SOCIAL SECURITY: The Virginia State Chamber of Commerce reminds us that many employees will be surprised to find that the withholding tax for social security took another upward jump on January 1. Strangely enough, the first reaction is quite often against the employer. It might be well to inform them that the withholding rate has jumped from 3.625% to 4.2%. It is also important to let them know that the wage base has increased from $4,800 to $6,600. This means that the maximum withholding will jump from $174 in 1965 to $277 in 1966.

It might not be a bad idea to also let your employees know that for every $1 withheld from their checks, the employer must deposit a like amount.

PHYSICIAN PLACEMENT: The Virginia Council on Health and Medical Care advises that there exists in Virginia 127 opportunities for physicians in general practice. There are also 159 opportunities for specialists in some 90 different communities. The Council is doing its usual fine job—having placed over 40 physicians during the past year. Its offices are located at 100 East Franklin Street, Richmond 23219.

VOLUNTARY HEALTH AGENCIES: Your Society receives so many calls concerning voluntary health agencies, that it might be interesting to publish the AMA definition of such an agency:

> "A voluntary health agency is any non-profit association organized on a national, state, or local level; composed of lay and professional persons; dedicated to the prevention, alleviation, and cure of a particular disease, disability, or group of diseases and disabilities. It is supported by voluntary contributions primarily from the general public and expends its resources for education, research, and service programs relevant to the disease and disabilities concerned."

MEDICARE: Reports from Washington indicate that physician certification under Medicare continues to be one of the big problems facing those writing the regulations. Most physicians want this regulation just as flexible as the law permits—meaning re-certification on the 20th day of hospitalization. The fear also exists that too stringent regulations on certification would do the program more harm than good.

The Health Insurance Benefits Advisory Council is reported to favor a stricter approach—with re-certification in 14 days and every seven thereafter. Reports also have it that HEW would like to require physicians to predict length of hospital stay and possible outcome of the case.

DID YOU KNOW? There are an estimated 6,000 medical periodicals published regularly throughout the world and more than 3,000 books in medical and allied sciences.

Benjamin Franklin was an advocate of fresh air and is credited with being the originator of the modern art of ventilation.

PR PLAQUE: From time to time "Current Currents" likes to call attention to one of the most effective public relations aids available anywhere. We refer to the attractive plaque which reads as follows:

"TO ALL MY PATIENTS . . . . I INVITE YOU TO DISCUSS FRANKLY WITH ME ANY QUESTIONS REGARDING MY SERVICES OR MY FEES. THE BEST MEDICAL SERVICE IS BASED ON A FRIENDLY, MUTUAL UNDERSTANDING BETWEEN DOCTOR AND PATIENT."

These plaques have done much to eliminate areas of misunderstanding between physician and patient. Often, patients would like to discuss professional fees and services but are hesitant. Physicians can, with this plaque, encourage them to broach the subject. These plaques can be obtained for $1.25 each from the Order Department, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

STUDENT FINANCES: A recent publication of the U. S. Public Health Service offers some very interesting facts concerning medical students in the United States. In 1963-64, the single student spent $2,713. For married students, the average ranged from $4,797 for those with no children to $5,244 with two children or more.

Half of the income of single medical students was supplied by their families as gifts and loans. Another 30 per cent was earned by the students themselves, either between school terms or during the school year. The earnings of wives supplied almost half the total income of married students.

Ten per cent of the income of both single and married medical students was obtained from loans outside the family. Many of the bank loans were guaranteed by AMA's Education and Research Foundation. Loans also were obtained from the medical school or university, the National Defense Education Act Program, foundations, medical societies, fraternal organizations, state agencies, banks, and loan companies. Almost one-third of all medical students obtained loans. These averaged $1,193 for each student.

One-fourth of all medical students were working during the medical school term and the jobs averaged 14 hours a week.

VOTING FACTS: A recent statistical bulletin reveals that 70.6 million Americans voted in the Presidential election last year. This was a record total, exceeding by 1.8 million the number casting ballots in the 1960 election. Since, however, the civilian population of voting age increased by nearly 5 million during this 4 year period, the proportion going to the polls decreased from 64 per cent to 62.8 per cent.

MARRIED POPULATION: The married population of the United States has increased considerably in recent years. The number is now more than 89½ million—a gain of 4 million since the 1960 census. With more and more youngsters coming of age in the near future, the size of the married population will undoubtedly continue to increase at a rapid rate. It will probably total almost 100 million by 1970, and could reach 120 million by 1980.

Mental Health . . . .

C. A. WHARTON, JR.

Final Report on Comprehensive Mental Health Planning in Virginia

This is a fourth and final article of a series on Comprehensive Mental Health Planning in Virginia. Previous articles have reported on methods,[1] progress,[2] and a proposed Long Range Plan for Virginia.[3]

In accordance with the terms of the Federal Grant for the Conduct of Comprehensive Planning, the Virginia Mental Health Study Commission completed its work on June 30, 1965. The culmination of the task undertaken by the Commission was the compilation of its Report to the State Mental Health Authority on the problems and needs in Virginia and its recommendations for the improvement of mental health services and facilities. This report was rendered on March 31, 1965. To complete action on the planning program, it was then necessary for the State Mental Health Authority to submit a Final State Report to the Surgeon General of the United States. Such report was submitted by Dr. Hiram W. Davis, Commissioner of the Department of Mental Hygiene and Hospitals, on September 1, 1965.

In his report, which reviewed the entire planning program under the Grant, Dr. Davis endorsed in general both the Long Range Plan advanced by the Commission and its conclusions and recommendations regarding specific action on programs within the Commonwealth. He reviewed the long range goals of the Department and set forth specific short range goals including continued improvement and expansion of existing services; alleviation of current personnel shortages; development of new Services, particularly in the field of Aftercare and Children's Services; development of public awareness and acceptance of the mentally ill and their problems; and the examination, development and evaluation of methods best suited to the provision of comprehensive community mental health services throughout the state.

To achieve these goals, the Department will rely heavily upon the Recommendations of the Commission as outlined in its Report to the State Mental Health Authority.

With regard to specific actions based upon these recommendations, there has been established within the Department of Mental Hygiene and Hospitals the position of Director of Planning whose tasks will be basically those outlined by the Commission. In addition, based upon the recommendations advanced, the Department has introduced action through its budget request for the 1966-1968 Biennium to support the following major programs:

1. Earliest accreditation of all State Mental Hospitals. This item will receive top priority within the Department until accomplished, in view of its importance in providing desired improvements of services to the mentally ill as well as its essentiality to an effective program for the training and recruitment of critically needed personnel.
2. Continued expansion, establishment and efficient and effective operation of local Mental Hygiene Clinics. This program is considered of the utmost importance to the ultimate development of Comprehensive Community Mental Health Centers.
3. Development, in conjunction with the Department of Health, of an improved and significantly expanded

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WHARTON, C. A., JR., *Director of Planning, Department of Mental Hygiene and Hospitals.*

Approved for publication by Comimssioner, Department of Mental Hygiene and Hospitals.

Aftercare Program. If requested appropriations for both Departments are forthcoming from the General Assembly the system proposed will provide State-wide service through existing local Mental Hygiene and Public Health Clinics.

In addition, the Department will recommend to the General Assembly a complete review, updating and recodification of Statutes concerned with mental health and retardation.

To foster and initiate a program which could ultimately provide the foundation for a network of Comprehensive Community Mental Health Centers, as recommended by the Commission, the Department plans the following action:

1. Cooperation with the Department of Health in the preparation of the State Plan for Construction of Mental Health Center Facilities as required by PL 88-164.
2. Cooperation with, and assistance to any local applicants with regard to developing in an orderly fashion their plans for such Centers.
3. Investigation of the feasibility of combining the potential of the State Hospital System with local programs for Community Mental Health Centers.

In addition to these specific actions, the Department will continue to take necessary action, as it has in the past, to improve recruitment, training and retention of personnel, to support vocational and rehabilitative services, to improve programs for the aging, children and others, and to insure the implementation, as practicable, of other recommendations of the Commission.

It is noted that the Commission Report made recommendations which would affect programs of the Departments of Education, Health and Welfare. The Heads of these Departments have indicated endorsement in general of the Commission Report and many items in their 1966-1968 Budgetary Requests are designed to implement certain of its recommendations.

The above description of final action is necessarily brief, as have been the previous articles on the Planning Program. Interested individuals or groups may obtain complete copies of the Report of the Virginia Mental Health Study Commission and the Final Report submitted to the Surgeon General by addressing requests to the Director of Planning, Department of Mental Hygiene and Hospitals, P. O. Box 1797, Richmond, Virginia.

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1. Comprehensive Mental Health Planning in Virginia, Edward B. White, Jr., Virginia Medical Monthly, 91: pp. 33-34, January 1964.
2. Comprehensive Mental Health Planning in Virginia-II, C. A. Wharton, Jr., Virginia Medical Monthly, 91: pp. 471-473, October 1964.
3. Recommendations of the Virginia Mental Health Study Commission, Sam Carey, Virginia Medical Monthly, 92: pp. 280-284, June 1965.

Red Cell Survival Studies

Human red blood cells have a normal life span of 120 days within the circulation. The time that the cells survive is decreased in various disorders in which there is increased cell destruction. This "survival time" may be measured by any one of several procedures. The Ashby technique utilizes differential agglutination of cell types. This is a laborious serological technique which limits its usefulness to experimental studies with specially trained personnel. Most of the currently used methods utilize radioisotopes. The most commonly used is the Cr^{51} red cell survival time in which the patient's red cells are labeled, *in vitro,* with the radioisotope. The tagged cells are injected and the radioactivity assessed in blood samples taken at various times. The rate of fall in Cr^{51} activity is an indication of the length of survival. The separation of intrinsic red cell defects from extrinsic agents as the cause of hemolysis may be determined by injecting the patient's labeled cells into a normal person or by injecting labeled cells from a normal person into the patient. Recently a technique has been developed using DFP^{32} (diisopropyl fluorophosphate) as a second labeling radioisotope. By the simultaneous utilization of Cr^{51} and DFP^{32} the survival of the patient's own red cells may be determined at the same time as that of normal. Another recent development is the combination of Cr^{51} survival studies with Fe^{59} erythrokinetic studies. The latter isotope is incorporated into newly formed red cells and the data obtained related to red cell production.

One of the distinct advantages in the use of Cr^{51} for survival studies is the fact that it is not re-utilized after the cells containing the isotope are destroyed. Originally the hexavalent form penetrates the red cell membrane to become attached to the globin portion of the hemoglobin molecule. Intracellularly there is conversion of the hexavalent to the trivalent form. In this latter form it cannot penetrate the red cell membrane and this cannot be re-utilized. One disadvantage of Cr^{51} is that it is eluted from red cells at a rate of approximately 1% a day. Because of this random loss, a curvilinear survival curve is obtained rather than a straight line as would be expected. A straight line is approximated when the Cr^{51} data are plotted on semi-log paper. This elution may vary from person to person as well as in various disease states, thus, a true survival curve is not obtained but rather an "apparent survival time". Generally, this is reported as the "half-time" which for Cr^{51} normally is 24-40 days rather than the 60 days one would expect from red cells living for 120 days.

One of the limitations of the procedure is that survival data alone cannot be used to differentiate occult bleeding from decreased survival time of the cells. This is particularly true in the presence of thrombocytopenia. A basic assumption in the performance of the test is that a steady state of red cell turnover is present during the course of the procedure. That is, for every labeled cell destroyed there is replacement by an unlabeled cell. This assumption of the constancy of the red cell mass is, in fact, rarely the case for usually either fluctuations in the rate of hemolysis, or transfusions, or treatments with corticoids cause continuous alterations.

Red cell survival studies have been used to determine the clinical significance of rare blood group antibodies and in the studies of the effect of storage on the red cells. In cases of hemolytic anemia with no demonstrable antibody, the studies can be of use to determine whether or not transfused normal cells have a decreased survival time.

In most hemolytic syndromes the red cell

mass decreases whereas the total blood volume remains relatively constant. The change in the red cell mass thus is, to a large extent, offset by changes in the plasma volume. Therefore, whole blood radioactivity counting is performed without hematocrit correction. If one corrects for hematocrit changes, assuming that the red cell mass is constant and the changes in hematocrit are due to changes in plasma volume, serious errors result.

By a combination of Cr^{51} red cell survival time with a procedure to determine blood loss in stools as well as with scanning over the liver, spleen, and sternum, it may be possible to determine the actual site of destruction. Positive indication for splenectomy is taken to be a splenic sternal ratio greater than 1.5 and the SLI (splenic localization index) 1.0 or greater. The latter index, introduced by McCurdy and Rath, is an index of the rate of red cell sequestration in the spleen.

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Dangerous Dobbin

On May 30, 1896, when automobiles were few and far between in the United States, the second automobile race in the Nation was held. The course ran from downtown New York to a settlement on the Hudson and back, for a distance of about 20 miles.

Six cars participated and one of these was built by an Ohio physician named Carlos C. Booth, who deserves a spot in history.

Then, nothing was particularly unusual about a doctor building and operating a car. They weren't coming off assembly lines, few people knew anything at all about the internal combustion engine and people of some means turned to mechanics as something of a hobby.

What should have singled out Dr. Booth for immortality was not so much the fact that he was the first physician to use an automobile in his practice but that he turned to the automobile when his wife was killed in an accident involving a runaway horse!

Dr. Booth was indeed before his time, for as late as 1900 a carriage-maker advertised in *The Journal of the American Medical Association:* "Oh, No, the Horse Hasn't Gone, and Never Will!"

The action of Dr. Booth might appear somewhat fantastic in the light of 47,700 traffic deaths last year. But it really wasn't.

There were about 17 million horses in the country in 1909. During that year, 3,850 people lost their lives in accidents involving horses and horse-drawn vehicles.

Considering a horse was driven or ridden an average of about 500 miles a year and that a automobile goes about 10,000, the horse death rate was about twice that of an automobile now. The United States didn't experience a traffic death until 1899.

—Virginia Trucks

Miscellaneous . . . .

AMA House of Delegates Sets Policy Re Medicare

The House of Delegates of the AMA, meeting in special session in Chicago on October 2 and 3, made very important decisions about the policy of the AMA regarding Public Law 89-97, the so-called Medicare Bill. Some of these are distinctly different from the oft-quoted views of Dr. James Z. Appel, President of the AMA, and place emphasis and interpretations which are also somewhat at variance with previous statements of the Board of Trustees of the AMA.

The meeting of the House of Delegates was preceded on October 1, 1965, by a "National Orientation Conference on Public Law 89-97," sponsored by the AMA for official representatives from each state association, and for any other members of the AMA who cared to attend. The formal program included opening remarks by Dr. Appel in his capacity not only as President, but also Chairman of the AMA Advisory Committee to HEW, and formal statements from three top level officials who presented "The Government's Role". These were Dr. John W. Gardner, Secretary, Department of Health, Education, and Welfare, Dr. Phillip R. Lee, Deputy Assistant Secretary, Health and Medical Affairs, HEW, and Mr. Arthur E. Hess, Director, Bureau of Disability and Health Insurance, Social Security Administration. "The Carrier's Role" was presented by Mr. Walter J. McNerney, President, Blue Cross Association, Dr. Russell B. Carson, Chairman, Board of Directors, National Association of Blue Shield Plans, Mr. Howard Hassard, General Council, National Association of Blue Shield Plans, and Mr. C. Manton Eddy, President, Health Insurance Association of America. Finally "The Hospital's Role" was presented by Dr. Edwin L. Crosby, Executive Director, American Hospital Association.

A "Feedback" period provided the listeners an opportunity to ask questions of the panel. Although many answers were quite straightforward, there was a distinct impression that government, carrier, and hospital representatives were determined to "sell" the medical profession on full participation in order to make Medicare work. On direct question, Mr. Hess and others would not admit the obvious fact that there is not only considerable danger but every likelihood of expansion of this type of program to other age groups, provided this program functions to the satisfaction of its chief beneficiaries.

It is understandable that news media gave wide coverage to the Orientation Conference, especially to the presentations by government representatives, and that they also described in some detail the reports to the House of Delegates by Dr. Appel and by Dr. Percy E. Hopkins, Chairman of the Board of Trustees. The Chicago Daily News on Saturday afternoon, October 2, carried a three column headline on page 1:

GIVE IN TO MEDICARE,
AMA URGES DOCTORS

It was predictable also that reports of the final actions of the House of Delegates would receive much less attention.

Less understandable and certainly regrettable, however, was the rather obvious withdrawal of television cameras and other press coverage just prior to the speech of Dr. Edward R. Annis, Past President of the AMA, at the conclusion of the "Feedback" session of the Orientation Conference. Dr. Annis received a standing ovation both before and after his address. A taped record of the address is now being edited, and at the express direction of the House of Delegates, will be made available through AMA Headquarters. It should be given a wide hearing before County Medical Societies.

Testimony was given in the seven and

one-half hours of hearings conducted before the single Reference Committee on Legislation and Public Relation. This Committee brought in a subsequent report consisting of a number of important statements and resolutions which were adopted with modification by the House of Delegates. The full proceedings will probably be available in appropriate AMA publications. Each physician should study carefully all actions of the House. The following actions are particularly pertinent and are quoted from the report for emphasis:

"Public Law 89-97 affects the legal, traditional, and ethical concepts of the physician-patient relationship".

"Legal council for the American Medical Association has stated that an individual physician acting independently and not in concert with others can lawfully refuse to accept any person as a patient who is a beneficiary under the program, or he may elect to treat such persons".

(Accepted by the House as information)

"It should be noted also that Section 6 of the Principles provides that "a physician should not dispose of his services under terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause the deterioration of the quality of medical care". If after regulations are promulgated and the Medicare law becomes effective, the individual physician acting independently and not in concert with others, finds it does tend to impair the free and complete exercise of his medical judgment and skill or to cause a deterioration of the quality of medical care, the individual physician would be justified under this principle is not participating under the law".

(Accepted as information)

"The American Medical Association opposes any program of dictation, interference, or coercion, whether direct or indirect, affecting the freedom of choice of the physician to determine for himself the extent and manner of participation or financial arrangement under which he shall provide medical care to patients under Public Law 89-97".

(Adopted as statement of policy)

"Current practices and customary procedures with respect to certification for hospital admission and care shall be continued under Public Law 89-97. The AMA Advisory Committee and the Association representatives to the technical advisory committees are advised to seek to accomplish this objective".

(Adopted as statement of policy)

"Hospital utilization review committees shall be composed of practicing physicians".

(Adopted as amended)

"Your Reference Committee believes that the physician should be informed fully as to the merits and limitations of billing patients directly for services, or accepting an assignment to enable payment by a federally designated local intermediary, so that the physician can decide for himself in each instance the method of compensation which he prefers. We recommend that the Association take appropriate action to inform physicians regarding the options of payment for services available to them under the law and its regulations".

(Adopted as amended)

"Hospital-based medical specialists are engaged in the practice of medicine. The fees for the services of such specialists should not be merged with hospital charges. The charges for the services of such specialists should be established, billed and collected by the medical specialist in

the same manner as are the fees of other physicians. The American Medical Association intends to continue vigorously its efforts to prevent inclusion in the future of the professional services of any practicing physician in the hospital service portion of any health care legislation".

(Adopted as amended)

Dr. Percy Hopkins, in his report from the Board of Trustees, announced that Dr. Donovan Ward, past president of the AMA, has been added to the Advisory Committee of the AMA to the HEW, and that Dr. William O. LaMotte, Jr., Dr. Amos Johnson, and Dr. Edward R. Annis, all members of the AMA Council of Legislative Activities had been named as a consultant group to the Advisory Committee. These appointments came largely in response to a "grass-roots" demand for such representation. Dr. Johnson is president of the American Academy of General Practice.

Forty-three resolutions were presented to the House, and were discussed individually or in related groups. A major portion of the testimony pertained to "non-participation". Although this concept was presented and discussed in many forms, the final impression which was left with many observers was that the House had acted upon many of the minutia of the Bill, but had not re-emphasized in clear and ringing tones the fact that this is not only a poor Bill, but a *bad* Bill, bad in the sense that it is evil because it is based on the principle of utilizing the Social Security Program to force one group of individuals to provide funds for the care of another group of individuals, regardless of the needs of the latter. Partially compensating for this was one of the final statements of the Reference Committee, accepted by the House:

> "The policy statements herein presented to the House for its action are intended to respond to the specific problems placed before the Reference Committee. We are certain that more definitive statements on Public Law 89-97 will be adopted by this House as regulations are promulgated and as the program is implemented. But lest we be misunderstood, your Committee wishes to clearly emphasize that none of its recommendations should be construed as approval of the Medicare law, or in any way as acceptance of its philosophy".

Prior to this special meeting of the House of Delegates there were many misgivings in the minds of Delegates and others about the session, and widespread doubts as to the necessity for it. These were thoroughly dispelled, and it was recognized by virtually everyone present that these statements of policy by the House of Delegates were greatly needed. The special meeting puts the House of Delegates "ahead" in its work. However, much remains to be done at the regular meeting to be held in conjunction with the Clinical Session in Philadelphia at the end of November.

JOHN C. HAWK, JR., M.D.

Woman's Auxiliary . . . .



Mrs. George W. Kelly, *President*
Woman's Auxiliary to The Medical Society of Virginia

Message from Your President

You have been most kind to give me the honor of working with you this year as your president. This affords me many opportunities for learning from you all of the ways you are helping, right where you live, to make our communities better, more healthy and safer places in which to live. You are doing these jobs in different ways as interpreted by your talented and informed members. Some of you are rendering your best service through work with other organizations and this is good.

I attended the regional workshop in New York in October and found it most helpful. It made me realize how much the other states were doing, and the importance of our enlisting the talents and abilities of all if we are to keep in step.

Copies of your 1965-1966 state Year Book were mailed in late November to all state officers, committee chairmen, county presidents and presidents-elect. Dimple Gravatt (Mrs. Broaddus Gravatt, Jr.) has worked with me in a most efficient way in compiling this book. I feel that it will prove helpful to you in communicating with those in every auxiliary with whom you will be working and particularly in contacting your State chairmen. They will welcome your interest, your questions and your ideas.

We have been asked to increase our 1965-1966 contribution to AMA-ERF (American Medical Association Education and Research Foundation) to 50% over last year. If we are to comply with this request, each auxiliary will have to increase their goal accordingly. If you did not use the Medallion Christmas Card order book this year, you might plan now to have it available and take orders as soon as it becomes current in 1966. Now is an excellent time to see that the engraved stationary order book is shown to your members so that everyone will have the opportunity to order. These orders yield a large profit to AMA-ERF. Gold and silver charms and bracelets are attractive gifts for daughters, sisters, mothers—almost everyone. The note paper is available for the asking at no cost so that the entire selling price goes to the fund. Use the "In Memoriam" and "In Appreciation" cards whenever the occasion arises. These cards also are provided at no cost so that the entire donation goes to the fund. By using these, you advertise the cause of AMA-ERF and remind others to follow your example. Mrs. Malcolm Harris, State AMA-ERF chairman, will be glad to advise you of other fund raising possibilities for this cause. In a recent letter from Dr. F. J. L. Blasingame, executive vice president of the American Medical Association, he stated: "Nothing is more vital to the practice of medicine than assuring continued excellence in the training of young physicians. Medical schools cannot accomplish this task without the assistance of those of us in the profession. . . . Please give generously with the knowledge you have invested in the future of medicine."

Betty Landes (Mrs. Ralph R.), your president-elect, and I have already had some pleasant times visiting jointly with the Al-

exandria, Arlington and Fairfax Auxiliaries and then on to Northern Neck where members were most interested in the recent action taken at convention which changed the name of the Student Loan Fund to the Alice H. Liggan Loan Fund, honoring the memory of their beloved member and past president. We then visited Mid-Tidewater Auxiliary and heard Elizabeth Harris, AMA-ERF chairman, propose many ways of raising funds for this. Since Mid-Tidewater includes several areas, Mrs. Andrews of Tappahannock suggested that each area within this auxiliary compete for highest contribution to AMA-ERF. This promises to be keen competition!

We look forward to visiting with all of you this year. Do let us hear when it will be convenient for us to be a part of your meeting to hear all of the interesting things you are doing. Meanwhile, don't forget to join VaMPAC. I'm sure your husband is already a member, or is he?

Cordially,
Virginia Kelly, President

Projects Around the Old Dominion

Quite recently your publications chairman wrote the publicity chairman of each county auxiliary asking for descriptions of projects to be shared with other auxiliaries. At this writing, the following groups have reported:

Northern Neck—The members have *already* passed their 50% increase mark for AMA-ERF. They have completed a tremendous job of obtaining and recording histories of the doctors in their area and their various contributions to medicine. Perhaps in the future it will be bound and sold. They may be able to finance future contributions in this way.

Newport News—The annual Patrick Henry Hospital Fair turned over the doll booth as usual to this auxiliary. They worked all summer making and dressing new dolls, freshening shop-worn dolls and completely renovating older dolls. Stuffed animals and pillows were prepared also to raise in all $660.00 for the hospital's physiotherapy and occupational therapy departments. To honor their member who had been chairman of this project for several years, their first meeting this fall was a picnic held on the hospital grounds and proclaimed as "Gloria Goldsmith Day." With marching songs and placards, they literally "struck up the band" for Gloria Goldsmith! Last month, to hear first-hand how important their AMA-ERF contribution was, Dr. Kinloch Nelson, Dean of Medicine, Medical College of Virginia, was their speaker.

Portsmouth—Workers for the blood banks at the hospitals are provided by this auxiliary three days a week. To be dependable in this constant service requires good organization and dedicated members.

Northampton-Accomack—Their main project is a scholarship fund to be used at the Wallops Branch of the University of Virginia. This fund is awarded to a deserving student who is enrolled in a pre-medical course. To raise money to increase their donation to AMA-ERF, they held an unusual "sale". Each member brought a gift to the meeting and, in turn, bought a gift before leaving.

Virginia Beach—The new Virginia Beach Hospital will receive the proceeds of a benefit bridge-luncheon they plan to hold in February. With twenty-five members, they had to turn down reservations last year after reaching their capacity of one hundred and twenty-five. They hope to have larger accommodations this year and more new equipment for the hospital.

Norfolk—Following their annual custom, the auxiliary members were hosts to all of the student nurses in the city at a Christmas Tea. Homemade goodies and friendship, combined with a Christmas program, made up the theme. For their February meeting, Dr. Harry M. Frieden, representing the State committee on Health and Religion, will describe the goals and function of this committee.

Editorial . . . .

The MCV/Q

THE SUMMER ISSUE of the Medical College of Virginia Quarterly appeared several weeks ago. The initial issue was published last Spring and while your reviewer read it with keen appreciation, no mention of it was made in the Virginia Medical Monthly for the question arose in the reviewer's mind as to whether the high standard set by the first copy could be maintained in subsequent issues.

The story of the Mississippi steam boat with the oversize whistle came to mind. This whistle was so large and required so much steam that after it was blown all activities aboard the boat were suspended until a sufficient head of steam could be built up again. Any misgivings of this nature were put at rest by the second issue of the MCV/Q. If anything, the second number is better than the first.

The scarlet cover of the Quarterly has an unusual and artistic presentation of the heart in health and disease, in history and in romance, prepared by Jeanne Clark and Raymond Geary. A thoughtful editorial about medical education and eleven articles appear in this issue. Some of the scientific articles are a little esoteric and one was not understood at all by your reviewer, but he felt better afterwards for having read it.

Seven authors were panelists at the McGuire Symposium in 1964. One commonsense article captioned "What is a Modern Physician?" was prepared by Sir George W. Pickering of Oxford University. This outstanding British internist is Regius Professor of Medicine, a post held by Sir William Osler after he left Johns Hopkins.

A calendar of postgraduate education provided by the Medical College of Virginia during September is included. This will doubtless be a regular and valuable feature. It will also fulfill the purpose of the Quarterly which "is designed primarily for the postgraduate education of physicians." The journal carries no advertising and is financed by the Medical school and subscriptions which are $4.00 annually.

Dr. Sam I. Said is editor of this excellent journal. He has an able group of editorial advisors and consultants. All in all this is a most attractive and professional appearing publication. The Virginia Medical Monthly is happy to welcome it to our growing list of state medical publications and wishes it a long and productive life.

H.J.W.

News . . . .

Calendar of Events

Medico-Legal Workshop—Community Memorial Hospital, South Hill—January 20, 1966.

Virginia Council on Health and Medical Care—Annual Meeting, Richmond—January 20, 1966.

Medical Seminar for Physicians—The Homestead, Hot Springs—Sponsored by University of Virginia School of Medicine—January 27, 28, 29, 1966.

National Voluntary Health Conference—Continental Plaza Hotel, Chicago, Illinois—February 16-17, 1966.

AMA Air Pollution Conference—Ambassador Hotel, Los Angeles, California—March 2-4, 1966.

Virginia Association of Mental Health—Annual Meeting, Hotel Roanoke, Roanoke—March 8-9, 1966.

Nutrition Forum—Virginia Council on Health and Medical Care, Thalhimers, Richmond—March 14-15, 1966.

Northern Virginia Clinical Assembly—Marriott Key Bridges Motor Hotel, Arlington—March 16, 1966.

Medico-Legal Workshop—Tidewater Memorial Hospital, Tappahannock—March 17, 1966.

19th Conference on Rural Health—Broadmoor Hotel, Colorado Springs, Colorado—March 18-19, 1966.

Virginia Tuberculosis and Respiratory Disease Association—Annual Meeting, Marriott Twin Bridges Motor Hotel, Arlington—March 21-23, 1966.

AMA Legal Conference—Hotel Continental, Chicago, Illinois—April 14-16, 1966.

Virginia Society of Anesthesiologists—3rd Annual Spring Scientific Meeting—Sheraton Motor Inn, Richmond—April 16-17, 1966.

Virginia Academy of General Practice—16th Annual Scientific Assembly—Hotel Roanoke, Roanoke—May 12-15, 1966.

AMPAC National Workshop—Sheraton Park Hotel, Washington, D. C.—May 21-22, 1966.

7th Annual Symposium on Clinical Aspects of Renal Disease—Ischemic Heart Disease and Cardiac Diagnosis—Sponsored by Tidewater Heart Association & Council on Clinical Cardiology, American Heart Association—Cavalier Hotel, Virginia Beach—June 30-July 2, 1966.

New Members.

The following new members were received into The Medical Society of Virginia during the month of November:

Lauro L. Adevoso, M.D., Manassas
Joe H. Burt, M.D., Virginia Beach
Ronald Fleming Calkins, M.D., Richmond
Joseph Cameron Campbell, M.D., Martinsville
Charles William Chamberlain, M.D., Richmond
James H. Fagan, M.D., Lexington
James Hartman Glenn, M.D., Richmond
Thomas L. Gorman, M.D., Danville
Everett Leo Haas, M.D., Radford
William Cary Hancock, M.D., Richmond

Alexander P. Leverty, II, M.D., Richmond
Charles Lindsay McDowell, M.D., Richmond
Emanuel E. Schwartz, M.D., Charlottesville
Robert B. Scoggins, M.D., Richmond
Kenneth D. Tuck, M.D., Richmond
George Piercy Vennart, M.D., Richmond
Robert Holden Wilkinson, Jr., M.D., Portsmouth

Virginia Dermatological Society.

Officers of this newly organized specialty society are: President, Dr. William Kaufman, Roanoke; vice-president, Dr. B. Voss Neal, Newport News; and secretary-treasurer, Dr. Peyton Weary, Charlottesville.

Mid-Tidewater Medical Society.

Dr. Arthur J. Martin, Bowling Green, has been elected president of this society, succeeding Dr. William B. Brown, Gloucester. Dr. Frank Kraler, Wicomico, is president-elect, and the following are vice-president councilors: Dr. Wendell Malin, Essex; Dr. A. L. VanName, Middlesex; Dr. Tom Smith, Gloucester; Dr. Edward Lewis, Caroline; Dr. Shirley Olsson, New Kent; Dr. Gus Jackson, King and Queen; and Dr. A. W. Lewis, Jr., King William.

Northern Neck Medical Association.

Dr. Powell Williams, Reedville, has been installed as president of this Association. Dr. Harold Sisson, Warsaw, was elected president-elect; Dr. T. Brent Wayman, Weems, vice president; and Dr. A. B. Gravatt, Jr., Kilmarnock, re-elected secretary-treasurer.

Dr. Ware to Resign.

Dr. H. Hudnall Ware, Jr., will resign as chairman of the department of obstetrics and gynecology at the Medical College of Virginia in July. He was made chairman in 1942. Dr. Ware will continued his private practice and his teaching assignments at the College.

Dr. Hagood Wins Prize.

Dr. Warren Hagood, Clover, has been named a first prize winner in a contest sponsored by a drug manufacturer among physicians throughout the nation. The prize is a trip for two to any medical convention anywhere in the Western Hemisphere and $1,000 to be given to any medical research agency of his choice. Dr. Hagood submitted pictures "before and after" of a patient with a skin disease who was treated with a drug manufactured by the sponsoring manufacturer. He was one of three in the nation to win a first prize.

Dr. Donald F. Fletcher, Jr.,

Horsey, has been named the Outstanding Citizen of the Year in Atlantic District by the Atlantic Ruritan Club.

Dr. John W. Painter,

Fredericksburg, is the recipient of the annual Frank C. Pratt Mental Health Chapter award to the most outstanding area volunteer worker in the mental health field. He is presently serving as president of the Virginia Association for Mental Health.

New Associate.

Drs. William Minor Deyerle, Virgil R. May, Jr., and E. W. Hakala, Richmond, announce the association of Dr. Charles Lindsay McDowell, Jr., for the practice of orthopaedic surgery with special training in hand surgery.

Virginia Association of Medical Assistants

The Virginia Association of Medical Assistants held its 10th Annual Meeting at the Hotel Roanoke, November 12, 13 & 14. There were 58 voting members present.

Dr. John S. Thiemeyer, Jr., of Norfolk, Virginia, was elected Medical Advisor to serve with Dr. John T. Jarrett, Dr. Joseph Milam, and Mr. Robert I. Howard, Executive Secretary of The Medical Society of

Virginia and Honorary Member of the Virginia Association of Medical Assistants.

Mrs. Lonie Kanak of Richmond was elected President; Mrs. Virginia Mathewson, President-Elect; Mrs. Gene Garrett, Vice President; Mrs. Millicent Carlson, Treasurer, and Mrs. Carolyn Williams, Secretary.

Doctors, how many of your girls are members of the Virginia Association of Medical Assistants and how much thought have you given toward urging they join as well as rendering assistance to them and the organization?

The dues for the local, state, and national association are under $15.00 per year.

Wouldn't it be nice for you to pay their dues which, of course, are tax deductible as an office expense, allow them time off to attend the state and national meetings and, if so inclined, to assist them financially at these meetings?

What better New Year's Resolution could you make and at the same time add as much assistance to those girls who mean so much to us in our offices and without whose help and dedication we could certainly not operate our business as efficiently as it is now done?

JOHN WYATT DAVIS, JR., M.D.
Honorary Member VAMA
National Advisor AAMA

Pediatrician Wanted.

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Chief of Maternal and Child Health. Male or female, age 50 or under. Graduation from medical school, eligible for license to practice in Virginia, and three years of experience in the practice of medicine. Experience in pediatrics or obstetrics preferred. Stimulating position in large City Health Department with excellent fringe benefits. Salary up to $15,210.00 annually, dependent upon qualifications. For further information, contact Director of Public Health, Richmond City Health Department, 500 North 10th Street, Richmond, Virginia. (*Adv.*)

Obituaries . . . .

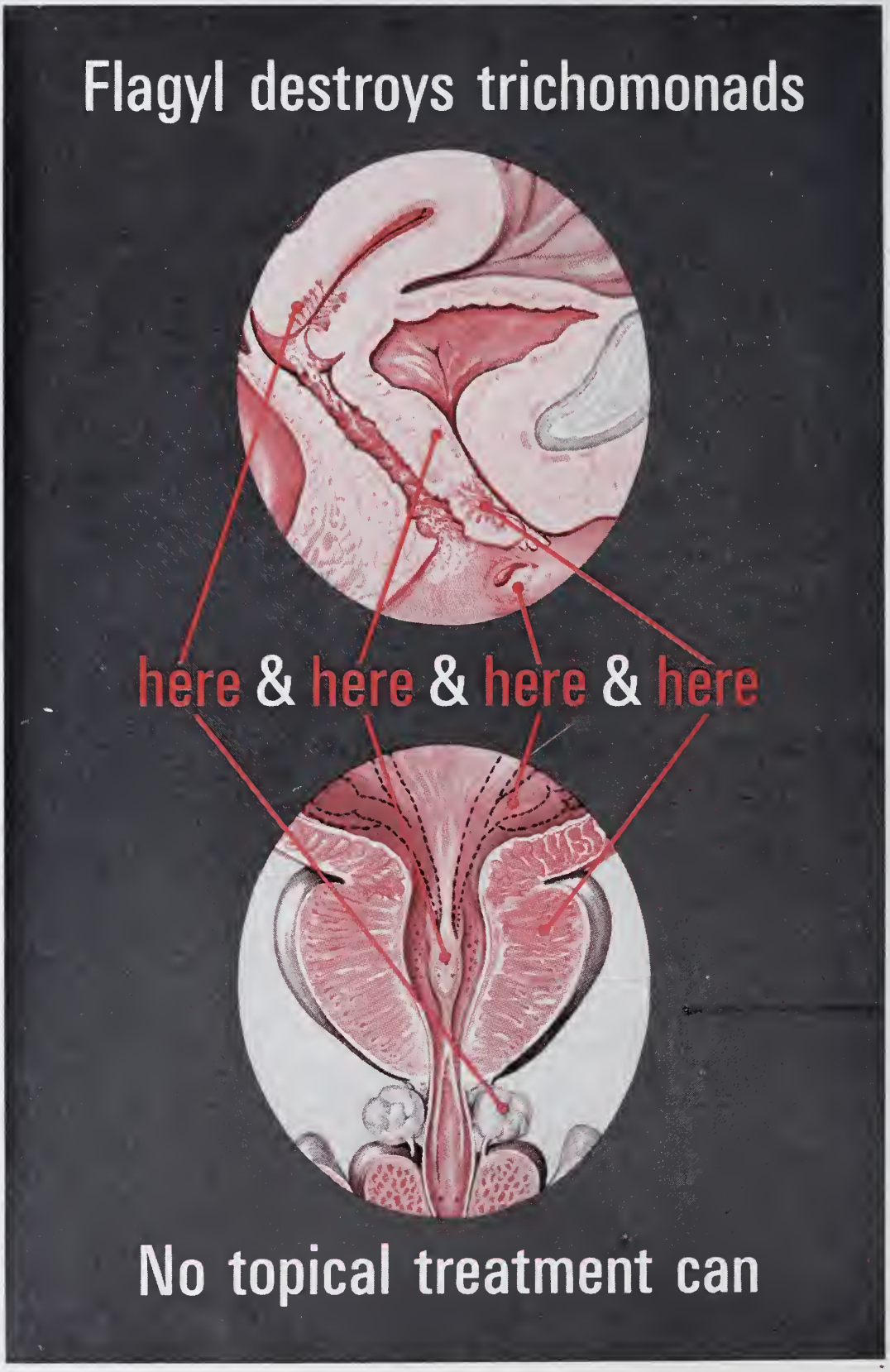
Dr. William Lee Cosby,

Painter, died November 13th, following a long illness. He was eighty years of age and a graduate of the Medical College of Virginia in 1909. Dr. Cosby practiced for a short time in Gloucester County but located in Painter in 1910 where he practiced for nearly half a century. He had been a Mason for more than fifty years and had been a member of The Medical Society of Virginia since 1918.

His wife, a son and four daughters survive him.

Dr. John Hundley Hoskins,

Lynchburg, died November 13th, at the age of seventy-three, having been in ill health for several years. He was a graduate of the Medical College of Virginia in 1915. Dr. Hoskins practiced in West Virginia and Kentucky before locating in Lynchburg in 1925 where he practiced until his retire-


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Flagyl eliminates the difficulties and frustrations that have long attended the treatment of trichomonal infection.

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2) the failure of any previously known agent to prevent reinfection by eradicating the disease in male consorts.

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In *women:* one 250-mg. oral tablet t.i.d. for ten days. A vaginal insert of 500 mg. is available for local therapy when desired. When the inserts are used one vaginal insert should be placed high in the vaginal vault each day for ten days, and concurrently two oral tablets should be taken daily.

In *men:* in whom trichomonads have been demonstrated, one 250-mg. oral tablet b.i.d. for ten days.

Contraindications

Pregnancy; disease of the central nervous system; evidence or history of blood dyscrasia.

Precautions and Side Effects

Complete blood cell counts should be made before and after therapy, especially if a second course is necessary.

Infrequent and minor side effects include: nausea, unpleasant taste, furry tongue, headache, darkened urine, diarrhea, dizziness, dryness of mouth or vagina, skin rash, dysuria, depression, insomnia, edema. Elimination of trichomonads may aggravate moniliasis.

Dosage Forms

Oral—250-mg.tablets/Vaginal—500-mg.inserts

SEARLE

Research in the Service of Medicine

ment in 1960. He was a Mason and a member of the Piedmont Foxhunters Association. Dr. Hoskins had been a member of The Medical Society of Virginia for thirty-eight years.

His wife, a son and two daughters survive him.

John Williams Powell.

Jack Powell's college English professor once said that Jack was the smartest student he had ever taught. With most of his class the professor could simply follow his notes from day to day, but with Jack he was forced to study ahead to be ready for the probing questions and interpretive mind. This same brilliance characterized Jack through the rest of his education and subsequent medical practice. The elderly patient found in him a stalwart friend, ready to respond to a call at any hour. The adolescent found in him the ready assurance of necessary probing without the embarrassment of needless exposure. Those between these ages found an unexcelled, intuitive skill in that necessary blending of the art and science of medicine that marks a superior physician. Yes, Jack was certainly a good doctor.

Born in Richmond, November 12, 1922, he graduated from St. Christopher's School in 1941. Entering Hampden-Sydney College the same fall, he continued his studies only to have them interrupted some two years later by the U. S. Navy. He passed through Midshipmen's School with the wartime urgency of the ninety-day wonders, and he served on a destroyer, the USS Green, before his ultimate return to inactive duty with the rank of Lieutenant JG. Returning to Hampden Sydney College, he graduated Summa Cum Laude in 1946 and from the Medical College of Virginia in 1950. He served first as an intern and then a resident in internal medicine at the Medical College of Virginia Hospital for the four years following his graduation. He maintained his teaching affiliation with the Medical College of Virginia from the completion of his residency training until the time of his death, August 27. Upon completion of his medical residency Jack began private practice with the late Dr. H. Wallace Blanton in 1954. At the time of his death he was practicing in association with Drs. Frank and Wyndham Blanton and Billy Martin. He was a member of the attending staff in Internal Medicine and of the Board of Directors as well of Stuart Circle Hospital. He was also on the Courtesy Staff of Richmond Memorial Hospital and Retreat for the Sick Hospital. In addition to the Richmond Academy of Medicine, he was also a member of The Medical Society of Virginia, American Medical Association, Southern Medical Association, and in his specialty the Richmond and American Societies of Internal Medicine. His club membership included the Commonwealth and Country Club of Virginia. He was also a life-time member of Grace Baptist Church.

Jack Powell grew up as the youngest of three children in a family of five. He was used to being waited on and tended to exploit the position at times, for in spite of his multitude of assets, he was also a human being. A certain measure of repressed hostility took its toll with an occasional attack of migraine and would lead him to mutter under his breath in the relaxed privacy of his most intimate friends, "Damn them old ladies."

He had the tenacity and courage at a hundred and fifty-five pounds soaking wet to stand in the center of the Hampden Sydney line and face the behemoths of the Virginia football teams of the early '40s.

Medicine was certainly, however, his first love. He was tireless in devotion to his patients, beginning his day early and continuing on into the wee hours as the need arose. At such times, as he inimicably put it, he could hear a sick patient dial his number and pick up the phone before it rang. His vacation periods were short-lived, few and far between, and even on his nominal weekends off, when in town, he routinely called on his hospitalized patients.

He was a spell-binding raconteur, and his provocative wit and boundless store of anecdotes and limericks made him a sought-after companion where men gathered to relax in the tap room and at the gin table. The same disarming and impish friendliness allowed him many social liberties where others less skilled would have been rebuffed.

In spite of his arduous schedule, he still managed enough time off to savor many of the finer things of life: a 12-foot sliding downhill putt that drops, mallards wheeling over decoys in the dawn, bourbon and branch water, quail rocketing from a patch of lespedeza, boiled Maine lobster, the whine of monofiliament leaving a spinning reel with a bone fish streaking across a tropical shoal. He also fancied a well-turned ankle, a dimpled chin, dark wavy hair, and flashing brown eyes, particularly those belonging to Caroline Duval whom he married in 1944. Duvie and three daughters, Cabell, Susan, and Betsy survive. How Almighty God in His infinite wisdom and mercy could take a man like this from his family and our community at the very height of his productivity must remain a mystery to the rest of us mortals.

Be it resolved, therefore, that these sentiments be spread upon the Minutes of the Richmond Academy of Medicine, and a copy sent to the family.

William W. Martin, Jr., M.D.
R. Finley Gayle, III, M.D.
Merritt W. Foster, Jr., M.D.
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512214

1. Torosdag, S., Schvartz, N., Fletcher, L., Fertig, H., Schwartz, M. S., Quan, R. F. B., and Bryant, J. M., Pargyline Hydrochloride as an Antihypertensive Agent With and Without A Thiazide, Am. J. Cardiol., 12:822, Dec., 1963.

2. Pollack, P. J., Pargyline Hydrochloride and Methyclothiazide Combined In The Treatment of Hypertension, Cur. Thera. Res., 7:10, Jan., 1965.

3. Bryant, J. M. et al., Antihypertensive Properties of Pargyline Hydrochloride, New Non-Hydrazine Monoamine Oxidase Inhibitor Compared with Sulphonamide Diuretics, J.A.M.A., 178; 406, Oct., 1961.



BP reductions in the recumbent and sitting positions often are nearly as great as in the standing. In clinical trials, the average *recumbent* BP reduction was 36/18 mm. Hg.



The average *standing* reduction in clinical trials was 45/22 mm. Hg. Thus the difference between the standing and recumbent readings was only 9/4 mm. Hg.

Significantly lowers blood pressure in all body positions; less likelihood of orthostatic hypotension

In clinical trials, the average reduction in standing blood pressure was 45/22 mm. Hg.; in the sitting position it was 48/20 mm. Hg.; and in the recumbent position, 36/18 mm. Hg.

Because Eutron effectively reduces blood pressure in all body positions, there is reduced likelihood of orthostatic symptoms or hypotension.

This was reflected in the relatively mild character of side effects seen in clinical trials (see below).

Smooth and gradual onset

Onset of antihypertensive action is usually quite smooth. Initial reduction of systolic and diastolic readings is usually seen within a week – maximum reduction in seven to ten days.



Less troublesome side effects may be seen; frequent improvement in "sense of well-being"

Fewer than 1% of patients studied discontinued Eutron therapy because of side effects. This is due in part to the relatively low dosage needed with the combination. Usual recommended dose is one tablet daily—that is, 25 mg. Eutonyl with 5 mg. Enduron. *This is about half the usual therapeutic dose of Eutonyl given alone.* As a consequence side effects may be milder. And, as with Eutonyl given alone, the patient may well note an increased sense of well being. This is in distinct contrast to most other antihypertensive therapy.

ABBOTT

Prescribing information for **EUTRON**

INDICATIONS: Eutron (pargyline hydrochloride and methyclothiazide) is indicated in the treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. It is not recommended for use in patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone.

CONTRAINDICATIONS: Eutron is contraindicated in patients with pheochromocytoma, advanced renal disease, paranoid schizophrenia and hyperthyroidism. Until further experience is gained it cannot be recommended for use in patients with malignant hypertension, children (under 12 years of age), or pregnant patients.

The concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. A drug-free interval of two weeks should separate therapy and use of these agents.

WARNINGS: Pargyline hydrochloride is a monoamine oxidase inhibitor. Patients should be warned against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When it is necessary to administer alcohol, narcotics (notably meperidine), antihistamines, anesthetics, barbiturates and other hypnotics, sedatives, tranquilizers, or caffeine, these agents can be used cautiously at a dosage of ¼ to ⅕ the usual amount. Avoid parenteral administration where possible. Withdraw pargyline two weeks before elective surgery.

Patients should be warned about the possibility of postural orthostatic hypotension. Those with angina or other evidence of coronary disease should not increase physical activity. Pargyline may lower blood sugar. Potassium depletion is unlikely at the recommended dosage, but if it occurs, adjust dosage or withdraw or provide added natural food sources of potassium; potassium tablets should be avoided wherever possible, as bleeding or obstructive ulceration of the small bowel has been associated with their use; potassium levels should be especially watched if the patient is on digitalis or steroids, or if hepatic coma is impending.

PRECAUTIONS: When determining the antihypertensive effect of Eutron, blood pressure should be measured while the patient is *standing*. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Pargyline has not been shown to cause damage to body organs or systems. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. The drug should be used with caution in patients with liver dysfunction. With prolonged therapy, examine patients for change in color perception, visual fields, and fundi.

Elevated blood urea nitrogen, serum uric acid or blood sugar are possibilities attributable to the methyclothiazide in Eutron. Methyclothiazide may also reduce arterial response to pressor amines. Blood dyscrasias, including thrombocytopemia with purpura, agranulocytosis and aplastic anemia, have been seen with thiazide drugs.

SIDE EFFECTS: The use of pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extra-pyramidal symptoms have been reported. Drug fever is extremely rare. Congestive heart failure has been reported in a few patients with reduced cardiac reserve. Nocturia has been observed with the combination. If side effects persist, despite symptomatic therapy or reduction of the dose, discontinue the drug.

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Phone: 253-8397

Charleston Mental Health Center
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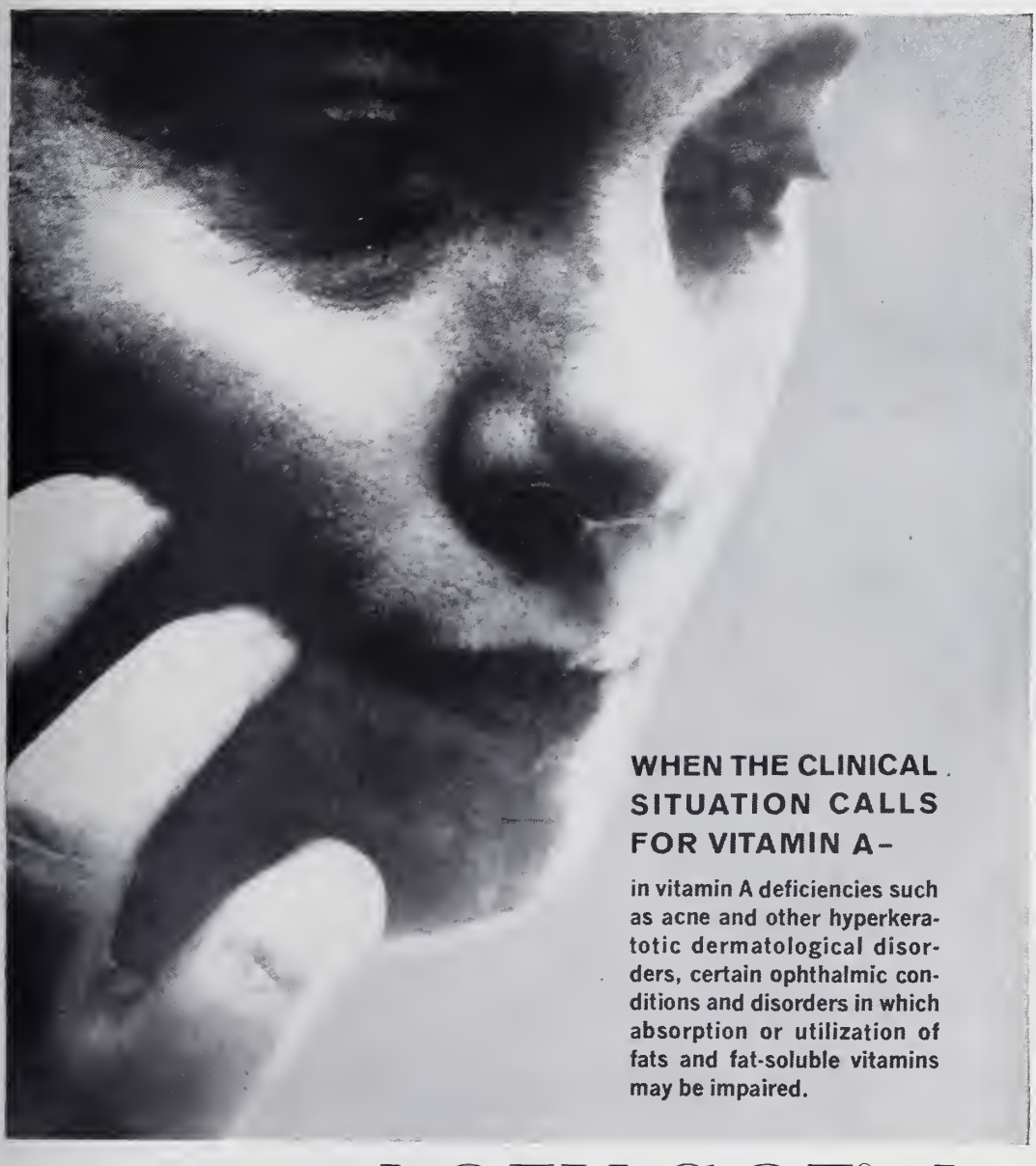
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Precautions: *Meprobamate*—Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of preexisting symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Side effects associated with recommended doses of 'Deprol' have been infrequent and usually easily controlled. These have included drowsiness and occasional dizziness, headache, infrequent skin rash, dryness of mouth, gastrointestinal symptoms, paresthesias, rare instances of syncope, and one case each of severe nervousness, loss of power of concentration, and withdrawal reaction (status epilepticus) after sudden discontinuation of excessive dosage.

Benactyzine hydrochloride—Benactyzine hydrochloride, particularly in high dosage, may produce dizziness, thought-blocking, a sense of depersonalization, aggravation of anxiety or disturbance of sleep patterns, and a subjective feeling of muscle relaxation, as well as anticholinergic effects such as blurred vision, dryness of mouth, or failure of visual accommodation. Other reported side effects have included gastric distress, allergic response, ataxia, and euphoria.

Meprobamate—Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Dosage: Usual starting dose, one tablet three or four times daily. May be increased gradually to six tablets daily and gradually reduced to maintenance levels upon establishment of relief. Doses above six tablets daily are not recommended even though higher doses have been used by some clinicians to control depression and in chronic psychotic patients.

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3 Now turn the machine over to any one witnessing the demonstration, and have her start the machine and apply the nozzle to any place where there is obvious dirt and dust. Keep the machine operating for a full minute.

See the proof with the
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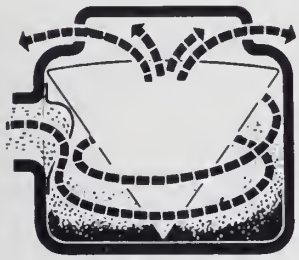
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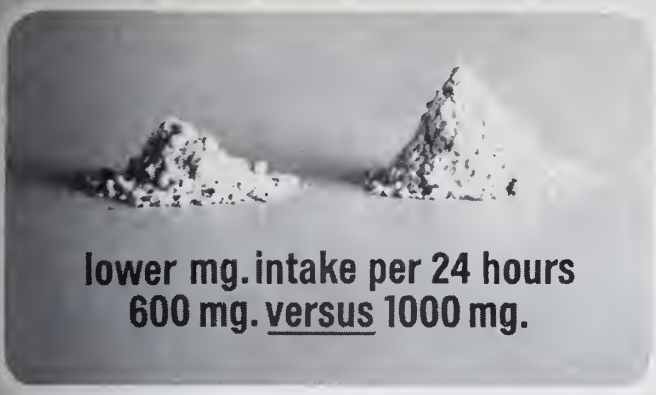
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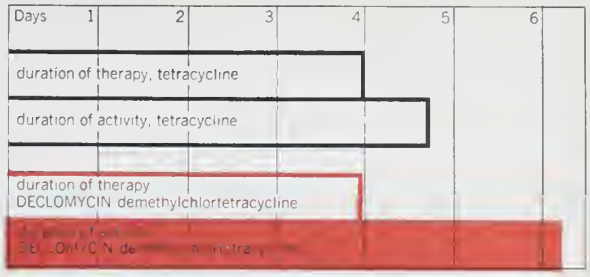
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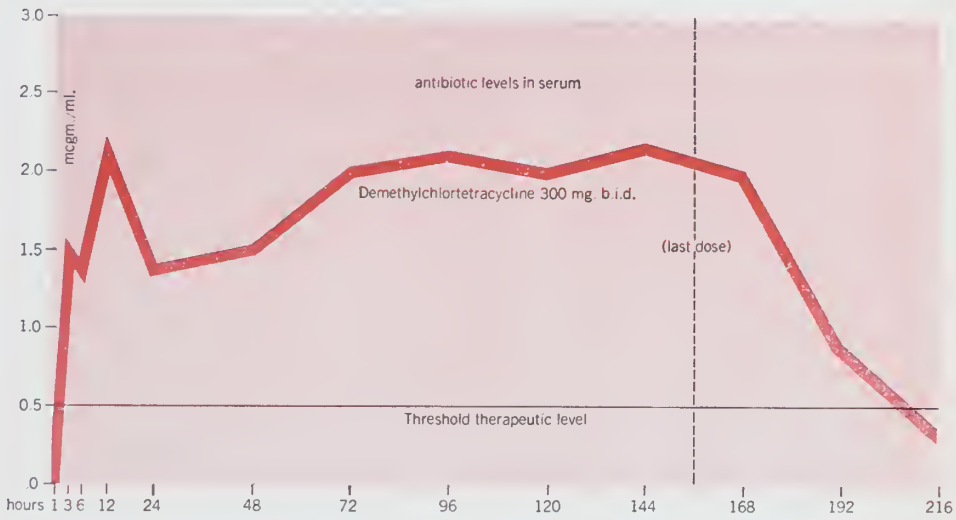


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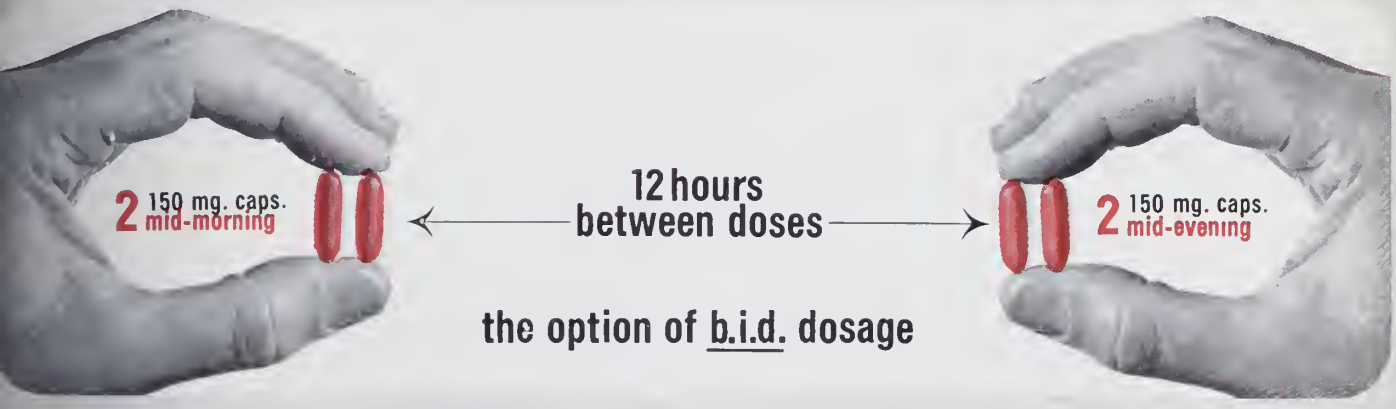


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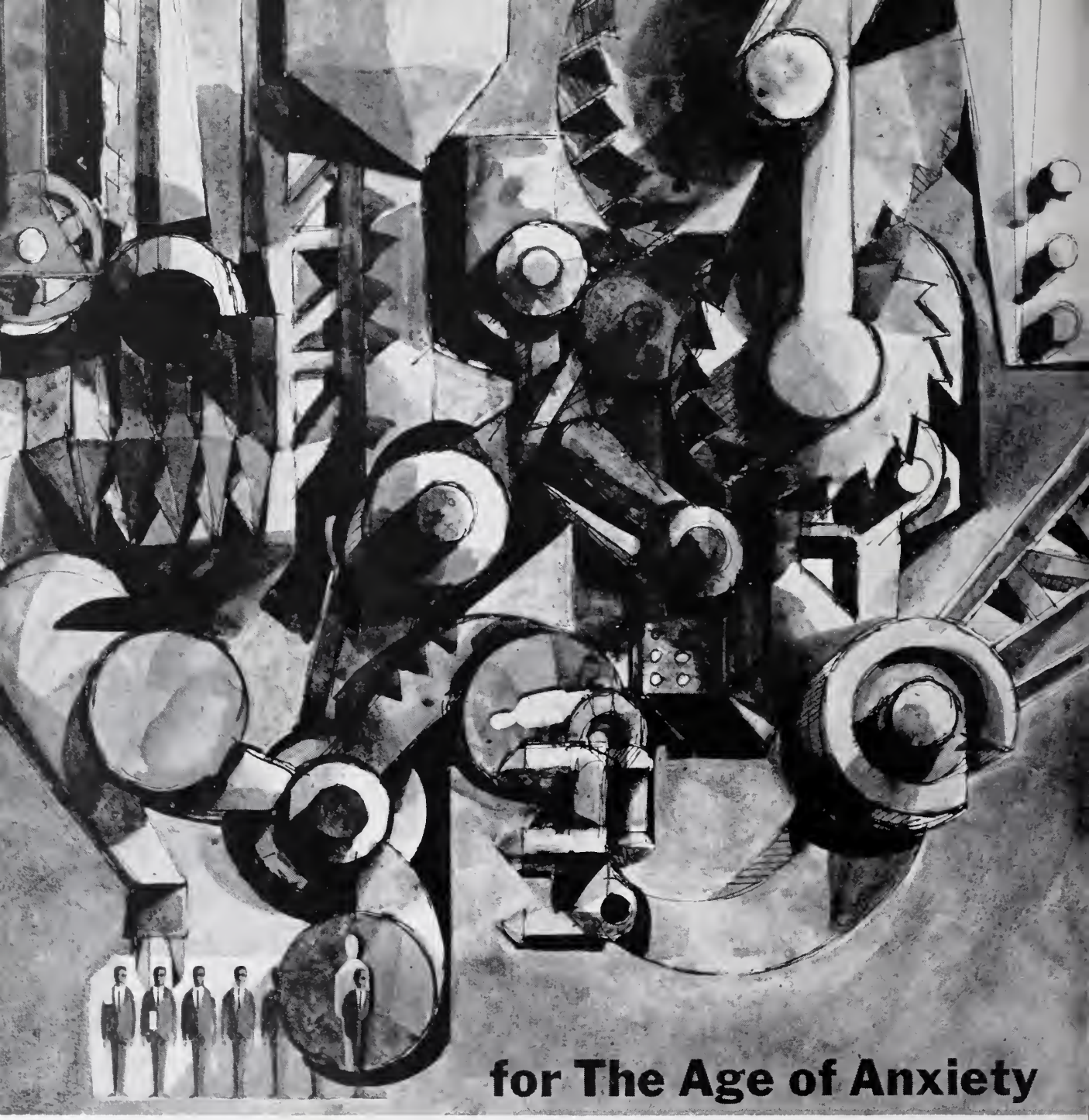
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VIRGINIA MEDICAL MONTHLY



FEBRUARY, 1966

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*Proctor, D. F.: The Nose, Paranasal Sinuses, and Ears in Childhood, Springfield, Ill., Charles C Thomas, 1963, p. 34.

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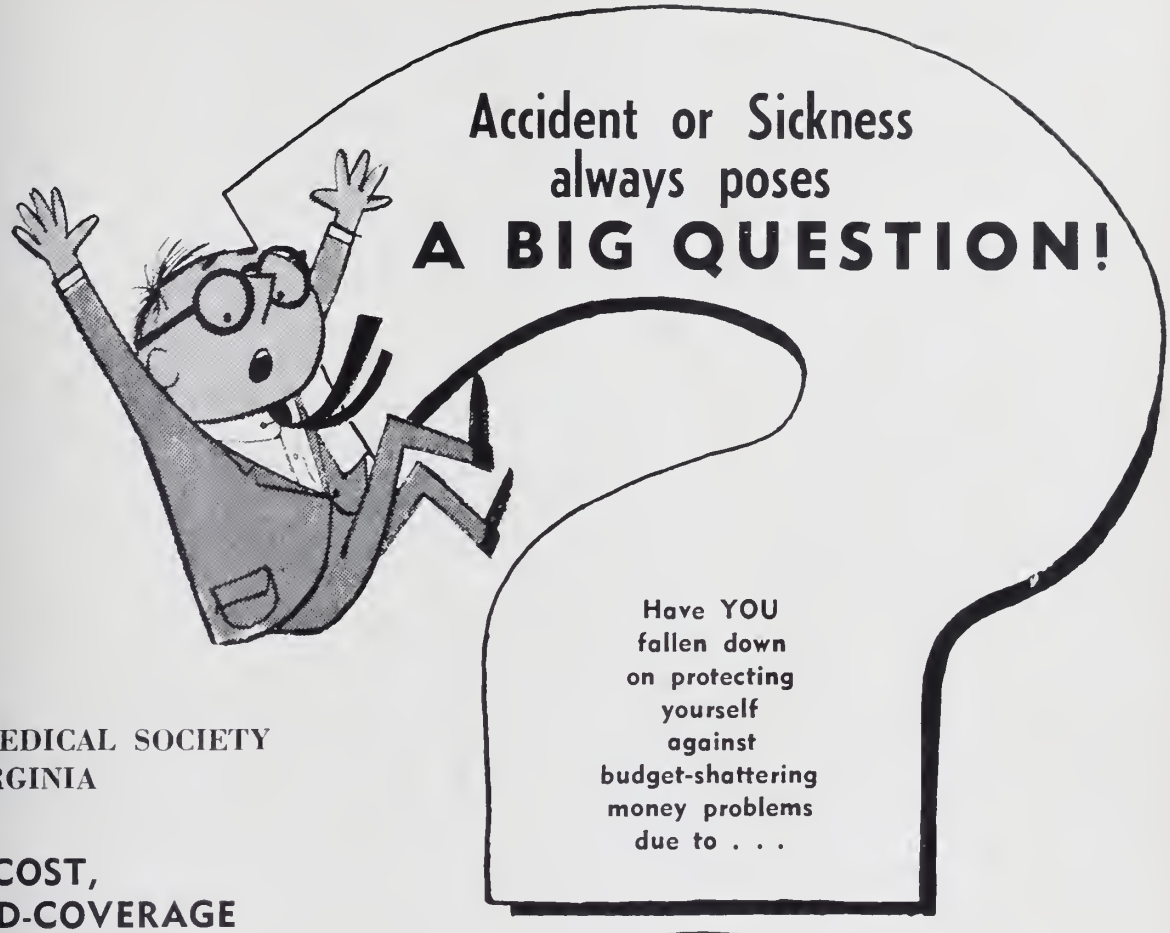
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Project Weight Watch has been initiated to assist you.

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"Eat, Herbie, eat. Don't you want to grow up big and strong?"





this part for diarrhea

Kaolin exerts a demulcent action along the gastrointestinal tract and a detoxifying action in the intestines to diminish irritation of the mucosa and lessen hyperperistalsis, nausea and diarrhea.

Pectin exerts its demulcent effect in the entire tract and its detoxifying action primarily in the large bowel to diminish irritation of the mucosa and help restore normal intestinal flora and function.

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Donnagel® treats the whole diarrhea problem.

Available in new 4-ounce plastic bottle on your prescription or recommendation. Also available: Donnagel®-PG (with paregoric equivalent) and Donnagel® with Neomycin. See product literature before prescribing.

References: 1. Kramer, P., and Ingelfinger, F.J.: Med. Clin. N. Amer., *32*:1227, 1948. 2. Hock, C.W.: Clin. Med., *8*:1932, 1961. 3. Winfield, I.W.: Am. J. Gastroent., *31*:438, 1959.

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A. H. Robins Company, Inc.
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DEMULCENT	●	●	●
COUGH SUPPRESSANT		●	●
ANTIHISTAMINE		●	
LONG-ACTING (6-8 hours)			●

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in each 5 cc. teaspoonful:

Glyceryl guaiacolate	100 mg.

(Alcohol 3.5%)

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(exempt narcotic)
in each 5 cc. teaspoonful:

Glyceryl guaiacolate	100 mg.
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Codeine phosphate	10.0 mg.

(warning: may be habit forming)
(Alcohol 3.5%)

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new, non-narcotic
in each 5 cc. teaspoonful:

Glyceryl guaiacolate	100 mg.
Dextromethorphan hydrobromide	15 mg.

Robitussin and Robitussin-DM are available at pharmacies everywhere on your prescription or recommendation.

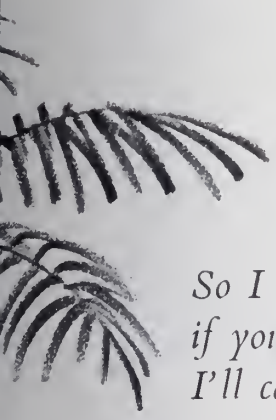
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ONE OF THE ROBITUSSIN® FORMULAS





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Controlling the child is sometimes as big a problem as controlling his cough. But with most children and with most coughs, the job is usually much easier with one of these effective Novahistine formulas.

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Each 5 ml. teaspoonful of Novahistine DH contains codeine phosphate, 10 mg. (Warning: may be habit forming); phenylephrine hydrochloride, 10 mg.; chlorpheniramine maleate, 2 mg.; chloroform (approx.), 13.5 mg.; l-menthol, 1 mg. (Alcohol 5%). Each 5 ml. of Novahistine Expectorant contains the above ingredients and, in addition, glyceryl guaiacolate, 100 mg.

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brand of **DexameTHasone**

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greater anti-inflammatory potency per mg. than most steroids yet developed

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available at a comparatively lower cost to your patients — economical for prolonged therapy

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when treatment might precipitate a problem with monilia

especially in diabetics or debilitated patients

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Side Effects typical of tetracyclines include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis, dermatitis, overgrowth of nonsusceptible organisms, tooth discoloration (if given during tooth formation) and increased intracranial pressure (in young infants). Also, very rarely, anaphylactoid reaction. Reduce dosage in impaired renal function. Because of reactions to artificial or natural sunlight (even from short exposure and at low dosage), patient should be warned to avoid direct exposure. Stop drug immediately at the first sign of adverse reaction. It should not be taken with high calcium drugs or food; and should not be taken less than one hour before, or two hours after meals.

Average Adult Daily Dosage: four divided doses of 1 capsule each or two divided doses of 2 capsules.

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DECLOSTATIN®

DECLOMYCIN® Demethylchlortetracycline HCl 150 mg and Nystatin 250,000 units/CAPSULES LEDERLE

with the option of b.i.d. dosage




too young
to be so tired...



revive interest...restore activity promptly with Alertonic®

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline†, 100 mg.; inositol†, 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

the need for a tonic knows no age

Life *can* begin at forty—except when functional fatigue causes her to feel tired all the time; to start losing interest in friends and surroundings; to look and act older than her years. Alertonic—*a prescription tonic*—can help your patient become her normal self again. Alertonic helps relieve mild depression, revive interest and restore purposeful activity promptly...with a formula that is efficient *and* economical. Alertonic contains a mild central stimulant (pipradrol hydrochloride), 15% alcohol, essential vitamins and minerals. No hormones or MAO-inhibiting drugs are included. No iron. No iodine. One pleasant-tasting tablespoonful before each meal comprises the usual daily dose.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS-stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive-compulsive states.

Side Effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
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Merrell

doing nicely,

thank you. (Father's off somewhere on a cloud.) And thanks to the great advances in medical care in the last 45 years, childbirth today is more an adventure than an ordeal. Pre-natal and post-natal recovery for both mother and child are likewise made easier by some drugs unknown to the profession as little as 10 years ago. In fact, 90% of our 200 most widely used drugs were not in existence before World War II. Should your physician ever prescribe a 'wonder' drug—or any other drug—for you or for any member of your family, Peoples is here to serve you with registered pharmacists on duty seven days a week, 365 days a year.



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Here is the Abbott anorectic program designed to meet the individual needs of your overweight patients.



mood elevation

Abbott
Anorectic
Program

DESOXYN® Gradumet® (methamphetamine hydrochloride)

Smooth appetite control plus mood elevation.

The obese patient on a diet often has to battle depression as well as overweight. Desoxyn Gradumet helps the dieter in both battles by elevating the mood while it curbs the appetite. Thanks to the Gradumet, medication is smoothly released all-day from a single oral dose.

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Calms anxieties; controls compulsive eating.

Desbutal Gradumet provides 2 drugs in 2 tablet sections, combined back to back to form a single tablet. One section contains Desoxyn to curb the appetite and lift the mood; the other contains Nembutal® (pentobarbital) to calm the patient and counteract any excessive stimulation.

Both drugs are released in an effective dosage ratio throughout the day.



controlled release

Abbott
Anorectic
Program

Not all long-release vehicles are the same. Here is why the Gradumet is different and what it means for your overweight patients.



The release action is purely physical and relies on only one factor common to every patient: gastrointestinal fluid. There is no dependence on enteric coatings, enzymes, motility, or an "ideal" ion concentration in the gastrointestinal tract.

Your patients get a measured amount of medication, moment by moment, throughout the day.

They are not subjected to ups and downs of drug release . . . or to erratic release from patient to patient . . . or to erratic release in the same patient from day to day.

That's why the Gradumet provides controlled-release as well as long release.

Perhaps you saw the Gradumet model demonstration which shows that the release is entirely physical. When fluid is added, the drug in the outer ends of the channels dissolves. As fluid penetrates deeper into the channels, there is a continuous release of medication. The rate of release is rigidly controlled by the size and number of channels.

choice of 5 strengths

Abbott
Anorectic
Program

DESOXYN Gradumet

Methamphetamine Hydrochloride in Long-Release Dose Form



5 mg. 10 mg. 15 mg.

DESBUTAL 10 Gradumet

10 mg. Methamphetamine Hydrochloride,
60 mg. Pentobarbital Sodium



Front Side

DESBUTAL 15 Gradumet

15 mg. Methamphetamine Hydrochloride,
90 mg. Pentobarbital Sodium

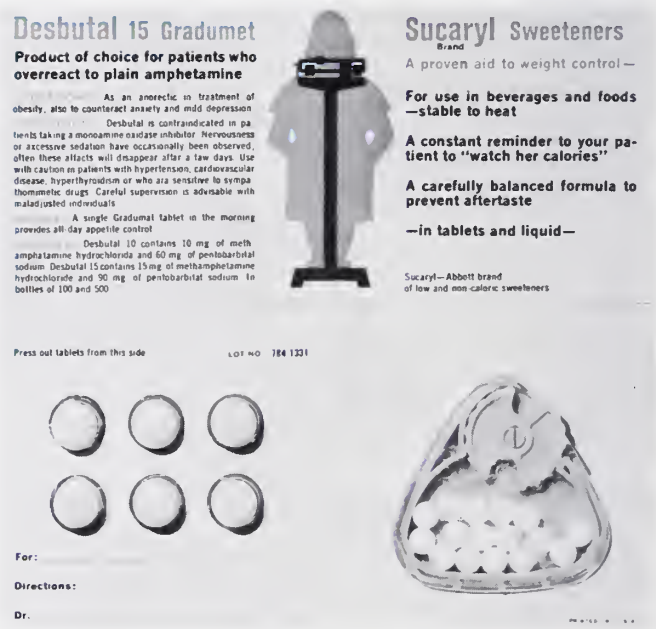


Front Side

samples available



Each sample contains 6 tablets and a filled Sucaryl® Sweetener dispenser. For a supply, write Abbott Laboratories or ask your Abbott man.



economy

Patients, in many cases, save enough to get five weeks of medication for the price of four, compared to other leading long-release anorectics.

CONTRAINDICATION: Desoxyn and Desbutal are contraindicated in patients taking a monoamine oxidase inhibitor.

PRECAUTIONS: Use with caution in patients with hypertension, cardiovascular disease, hyperthyroidism, old age, or those sensitive to sympathomimetic drugs or ephedrine and its derivatives. Careful supervision is advisable with maladjusted individuals.

ABBOTT

Gradumet—long-release dose form, Abbott: U.S. Pat. No. 2,987,445.
Sucaryl—Abbott brand of low and non-caloric sweeteners.

601060



Taking an ECG?

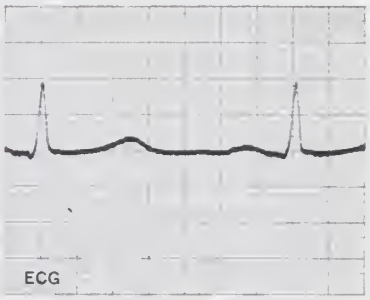
***Complete** the clinical picture*
*with **a heart sound recording***

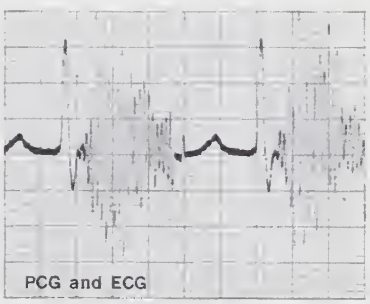
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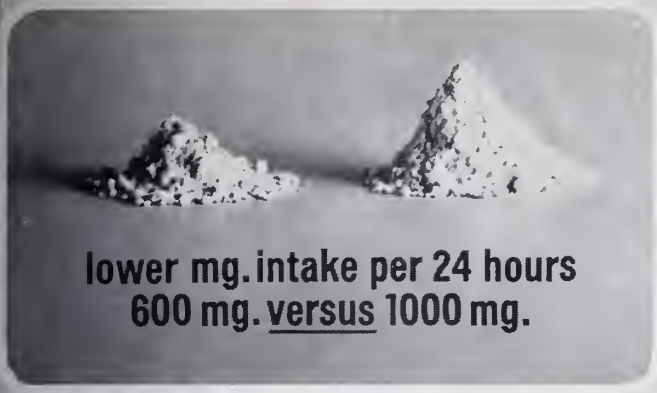
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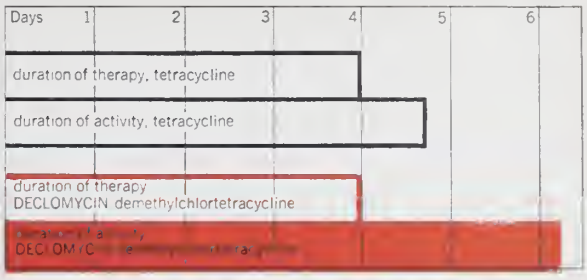
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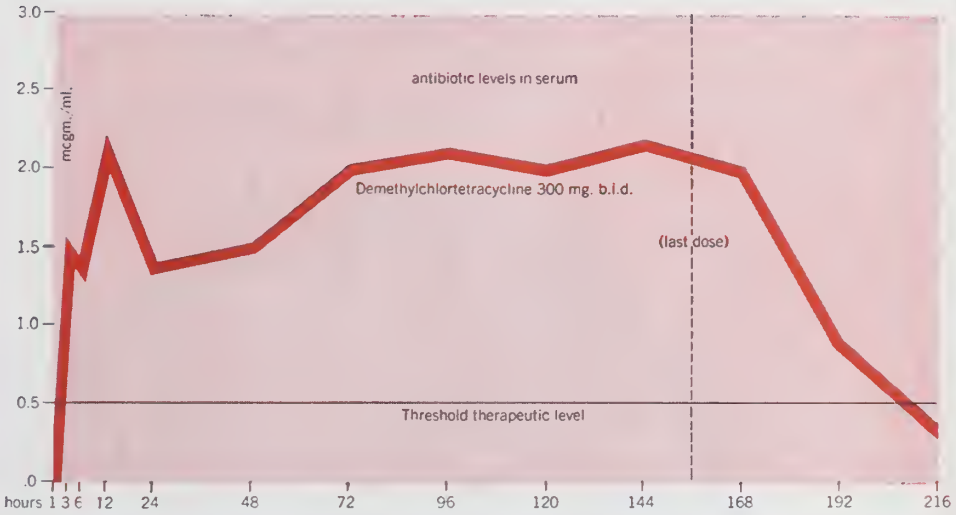


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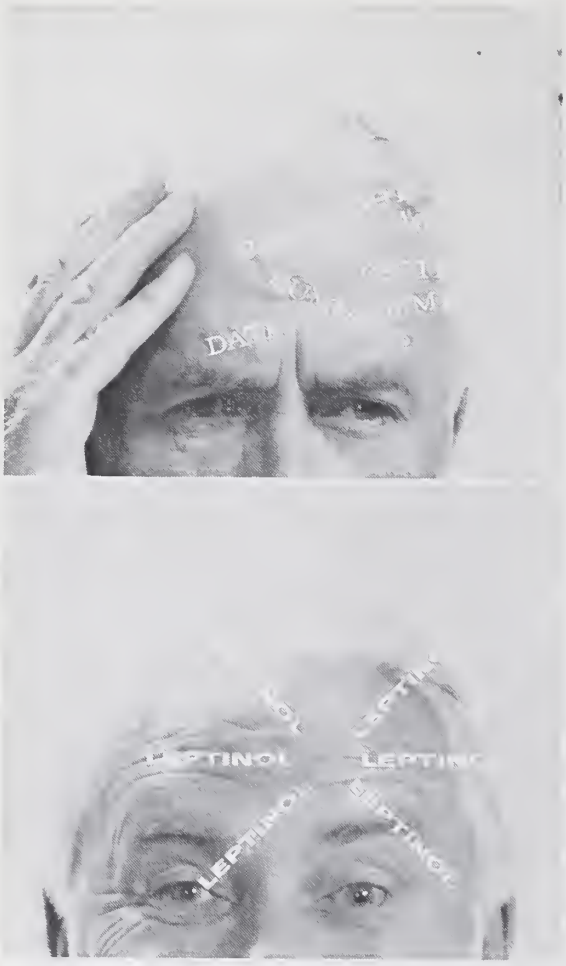
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References: 1. Shuman, C.: Am. J. Med. Sci., 225:54, 1953. 2. Perchuck, E., et al.: Angialagy, 12:102, 1961. 3. Rawls, W., et al.: Med. Times, 87:818, 1959.

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Benactyzine hydrochloride—Benactyzine hydrochloride, particularly in high dosage, may produce dizziness, thought-blocking, a sense of depersonalization, aggravation of anxiety or disturbance of sleep patterns, and a subjective feeling of muscle relaxation, as well as anticholinergic effects such as blurred vision, dryness of mouth, or failure of visual accommodation. Other reported side effects have included gastric distress, allergic response, ataxia, and euphoria.

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Dosage: Usual starting dose, one tablet three or four times daily. May be increased gradually to six tablets daily and gradually reduced to maintenance levels upon establishment of relief. Doses above six tablets daily are not recommended even though higher doses have been used by some clinicians to control depression and in chronic psychotic patients.

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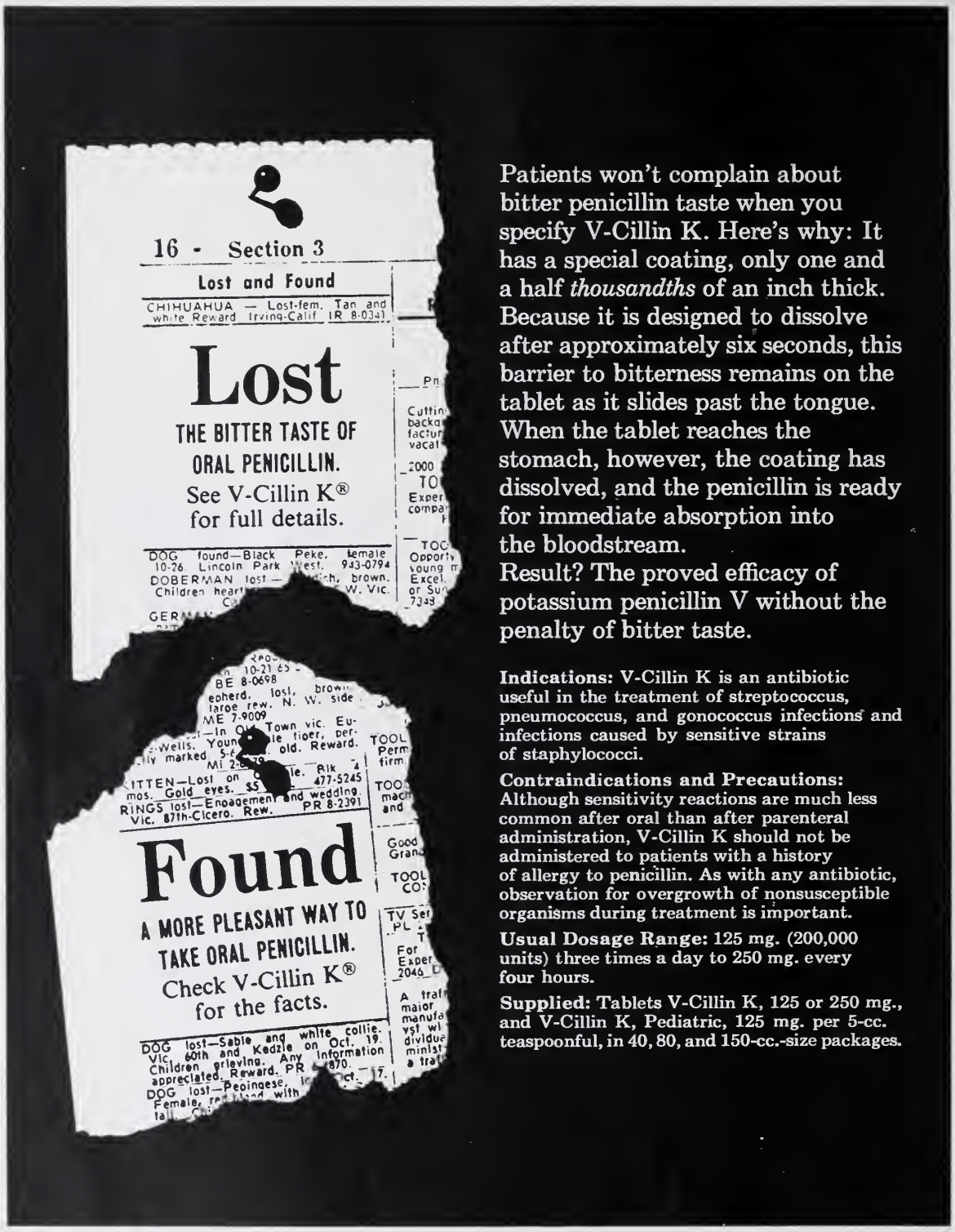
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The Virginia
MEDICAL MONTHLY

February, 1966
Vol. 93, No. 2
Whole No. 1365

Guest Editorial . . . .

Appendico-Cecostomy in Cases of Advanced Appendicitis

LEAKAGE OF BOWEL CONTENTS through the appendiceal stump remains the most serious complication of appendectomy in cases of advanced appendicitis. Antibiotic therapy affords valuable protection against generalizing peritonitis and systemic infection; however, it is relatively ineffective against the tracking and pocketing of the infectious process and external fistula formation resulting from the escape of fecal matter into the peritoneal cavity. In cases in which the suppurative or gangrenous process involves the base of the appendix and the adjoining cecum, and in the presence of abscess formation, the closure of the stump is likely to be insecure. Gas in the cecum increases in volume in postoperative ileus and peritonitis. It tends to find its way through any area in the closure weakened by necrosis, suppuration or the cutting of a suture. Once an opening is established, fistula formation results and the peritoneal cavity is subjected to intermittent or continuous fecal contamination. A Penrose drain to the appendiceal region is of limited value as it provide only a path against gravity for the escape of the fecal drainage to the outside.

As there is no way of preventing leakage from the appendiceal stump, a control measure should be instituted at the time of operation. An effective procedure is to provide a vent to the cecum in order to prevent the development of intralumenal pressure by the accumulation of gas. With the peritoneal cavity protected from fecal contamination the infection subsides and the cecostomy tube becomes walled off.

At the time of operation, in cases of the type in which leakage from the appendiceal stump may occur, a size 14 or 16 Foley catheter is passed through the lumen of the stump into the cecum, and the bag is inflated. If the stump is not too friable a direct ligature is tied loosely around it. Inversion is not necessary, furthermore attempt at inversion is generally inadvisable. Where the appendix has been removed by stripping the submucosa from its seromuscular coat, insertion of the catheter into the cecum is all that is possible and necessary. The operation should be carried down to the appendix. No attempt should be made to mobilize the cecum in order to bring it up to the anterior abdominal wall or to facilitate the operation. The proximal end of the catheter is brought out through the McBurney incision, or a lateral stab wound if a more medial incision has been used. It is attached to straight gravity drainage which provides a slightly negative pressure. It is gently irrigated at intervals to prevent occlusion by mucus or solid matter.

When intestinal continuity has been established the catheter can be occluded or permitted to drain into the dressing. Upon removal after ten to twelve days, or longer if it is serving a purpose, the fistula closes spontaneously and usually there is no further fecal drainage.

Appendico-cecostomy is sound in principle and simple in execution. It provides effective protection against fecal contamination of the peritoneal cavity from a leak in the appendiceal stump. The slightly prolonged recovery time to which some patients are unnecessarily subjected is far more than compensated by the reduction in morbidity and mortality in those cases in which this serious complication would have developed.

William H. Prioleau, M.D.

158 Rutledge Avenue
Charleston, South Carolina

Roper Hospital and The Medical College of South Carolina, Charleston, S. C.

Serous Otitis Media in Children

G. SLAUGHTER FITZ-HUGH, M.D.
ROBERT T. STONE, M.D.
Charlottesville, Virginia

Serous otitis media occurs frequently in children and causes significant hearing loss. When treated early this hearing loss is prevented.

SEROUS OTITIS MEDIA has increased in incidence in the past twenty-five years and is now a relatively common disorder that can be frequently diagnosed by alert physicians.[3,8] This increase is both real and apparent; real, due largely to the improper use of antibiotics,[13] and apparent, due to the increased awareness and diagnostic tools of the medical profession.[6] This condition, however, often persists undetected causing a mild to moderate hearing deficit in an alarming proportion of the children in this country. Although, there is only a 10-15 decibel auditory loss, it is of paramount importance to recognize this condition, for the hearing diminution may cause stagnation and retardation of the academic and social development of the child.[1]

Serous otitis media is a disorder characterized by the accumulation of various fluids in the middle ear, precipitating an auditory deficit, but never showing the clinical picture of acute or suppurative otitis media. The following multiple, confusing terms are synonyms for this disorder: secretory otitis media, secretory catarrh, hydrops ex vacuo, otitis media exudativa, acute catarrhal otitis media, acute nonsuppurative otitis media, tubotympanic catarrh, otitis media ex vacuo, tubal catarrh, hydrotympanum, and otitis media with effusion.[3,2]

The true causes of the disease is extremely controversial: no individual etiological agent has been found in every case, and multiple factors seem to be involved in about fifty per cent of the occurrences.[4] However, it is generally felt that eustachian tube malfunctions, causing poor ventilation and drainage of the middle ear cavity, are almost always responsible for this condition.[19] It is quite obvious that many factors could be responsible for tubal blockage. Acute respiratory infections associated with enlarged adenoids are probably the most common cause, but nasal allergy, dental malocclusion, nasopharyngeal malignancy, paralysis of the tensor veli palatini muscle, repeated tubal trauma due to catheterization, congenitally small tubes, cleft palate, septal deformities, and bacterial or viral nasal-sinus infections are also alleged to be responsible in certain individuals.[2]

Several theories prevail to explain the common association of tubal obstruction to serous otitis media and the collection of fluid in the middle ear. One concept proposes that when the tube obstructs, the tympanic cavity becomes essentially a closed space. The middle ear is very vascular and the diffusable gasses eventually pass, to a great extent, into the vessels, leaving the small vacuum behind them. The resultant mechanical sucking force may cause a transudate to be emitted from the vessels.[17,9] However, some investigators feel that a vacuum strong enough to accomplish this could not be created in this manner.[5] Others, however, feel that sufficient vacuum could be achieved.[7,8] It is also felt that additional contributing factors, such as tubal cilia

From the Department of Otolaryngology, University of Virginia Hospital.

movement toward the pharynx enhance the vacuum, thus aiding in fluid formation.[11] The sometimes retracted drum seen in this disease may indicate the possibility of lowered pressure in the middle ear.

Another concept holds that fluid collects in the middle ear due to tubal obstruction barring the outflow of secretions. Histologically, the normal middle ear is lined by simple cuboidal epithelium on a sparse subepithelial stroma. At the middle ear orifice of the eustachian tube, there is ciliated columnar epithelium and goblet cells.[11] Although there are no subepithelial glands in the distal one-third of the tube, there are serous and mucous cells in the pharyngeal two-thirds.[2] Therefore, secretions emitted from the cells mentioned, drain continuously into the nasopharynx under the normal conditions. As a result, when the tube becomes blocked, the secretions back up and collect in the middle ear cavity. Also, during periods of inflammation of middle ear mucosa, some investigators have found the simple cuboidal epithelium replaced by squamous metaplastic epithelium and goblet cells.[3] This would represent another source of fluid. However, not all instances of eustachian tube blockage are accompanied by fluid in the middle ear cavity.[18]

A third important consideration, in the etiology of the fluid collections, is the systemic conditions involved. The most significant of these are autonomic dysfunction and physical allergy.[12] It is postulated that arteriolar spasm produces ischemia and anoxia with resultant capillary dilatation and transudation or effusion. In addition, the allergy and/or a bacterial infection may contribute to the closing of the eustachian tube. In an allergenic effusion, however, one would expect to see a significant number of eosinophils, but this is seldom the case.[8] It is felt that both of these conditions may cause serous otitis media, but only rather uncommonly.[14]

Some feel that antibiotics play a major role in the etiology of this disease.[13] It is believed that these agents may prevent a low grade inflammatory state from turning into an acute otitis. However, they are often given for too short periods of time and in inadequate doses. A smouldering infection remains, which may recur regularly, causing formation eventually of a thick mucoid effusion. This suppression and alteration of a potentially acute otitis is felt by many to be the major reason for the increase in serous otitis media since 1940.[3,6,25,13]

In general then, it is felt that serous otitis media is most commonly associated with upper respiratory infections and hypertrophied tissue that blocks the tubal orifice. The initial etiology in most cases is inflammatory in nature. The various kinds of effusions are expressions of the multiple types of pathological processes at their various states of development depending on the therapy and the immunological response.

Serous otitis media is a condition that predominantly effects children, characteristically between the ages of two and fifteen. Before two years of age, some acute middle ear disease may occur, but usually not enough etiological results are present to cause formation of fluid. Most cases occur between the ages of four and seven. The clustering in this group, according to Lemon,[1] is probably due to the following factors:

1. The presence of the causative factors for a sufficient time to create the disease.
2. Enlarged tonsils and adenoids bring this age group to an otolaryngologist.
3. In school and at home inattention bears more importance.
4. In school, the child's hearing acuity is readily compared to a normal group.

The disease seems to be more common in areas of high humidity and low altitude. The great majority of the cases occur in the winter and the spring.

The history, the appearance of the drum, the detection of fluid in the middle ear, and the audiogram are the four main aids to making the diagnosis of serous otitis media.

The history usually reveals that the child has had several acute upper respiratory infections and mild earaches, which were treated with antibiotics. Subsequently, a variable hearing loss, usually more pronounced in the high tones, developed but occasionally there was none at all. The child is usually restless, irritable, inattentive, and exhibits deficiencies in his school work. Since, in school the child is closely associated with children with normal hearing, the teacher often is the first to report the possible hearing difficulty. Some children complain of tinnitus with this disorder. In small children the disease is often manifested by pulling on the diseased ear, burying the head in a pillow on the affected side, or crying for no apparent reason.

Inspection of the tympanic membrane most characteristically reveals a dull, yellow drum that demonstrates restricted mobility to the pneumatic otoscope. A fluid line and air bubbles may not be seen until tubal insufflation has been accomplished. The handle and short process of the malleus usually appear chalky white.[25] This may give the examiner an illusion that the drum is retracted, when often it is not. The tympanic membrane may also appear to be blue, pink, wrinkled or edematous.[2] In chronic cases, scarring may cause the drum to be retracted and immobile, or the drum may be flaccid and give an oiled paper appearance.[26]

The presence of fluid in the middle ear strongly suggests the diagnosis of serous otitis media. It may appear thin and milky, light gray and viscid, creamy yellow, or nearing the chronic state, gummy or brick colored.[1] The fluid may be classified as being serous or mucoid. While the serous fluid is thin and watery, the mucoid is quite thick in consistency. The mucoid variety is frequently so thick that it has to be removed in strands.[2] There are several theories as to the etiology of these two fluid types. Some feel that the serous liquid is a transudate from the vessels of the middle ear.[8,9] The mucoid type, on the other hand, is postulated to be an inflammatory exudate.[5] Another concept holds that when there is a mild infection and the tube closes, the secretions from the serous and mucous glands in the pharyngeal two-thirds of the tube cannot drain, and the middle ear then fills up with fluid, serous or mucoid depending on which glands are more active. Some feel that the serous fluid becomes more viscid or mucoid if it is allowed to remain in the tympanic cavity for some time.[24] Much controversy has arisen concerning the protein content of the two types of fluid, without conclusive results, or any general agreement as to which has the greater amount.[5,25] Cell counts of the fluids usually reveal polymorphonucleocytes, lymphocytes, eosinophils, phagocytes, and cell fragments.[3,14] Some investigators report finding significant numbers of eosinophils, others seeing none at all.[5,15,20]

The audiogram usually shows a conductive hearing loss of from 10 to 40 decibels. Bone conduction is usually normal, but sometimes it also shows a loss. The latter situation exists, it is felt by Palva when serous secretions, adhesions, or thickened mucous membranes fix both the oval and the round windows.[16] However, both air and bone conduction usually return to normal with drainage of the fluid from the middle ear. The puretone audiogram has proven of great value in adults, but young children (3-5 years of age) often cannot be treated in this manner. Live voice testing is substituted for this group with the basic testing principles remaining unchanged.

The main principles of treatment evolve around removing the middle ear fluid and preventing recurrence of the disease. Therefore, attempts are made to evacuate all of the fluid, to insure its proper drainage in the future, and to eliminate the original cause of the condition. If the child's auditory deficit does not exceed 20 decibels and the drum is only slightly dull, politzerization and naso-tubal decongestion are first employed in an attempt to alleviate the condition. If, as is often the case, these procedures do not suffice, or if the disease process is

severe (marked dullness, restricted mobility of the drum, and/or a hearing loss exceeding 20 decibels) more vigorous methods should be pursued.[2] The usual procedure is to perform a paracentesis of the tympanic membrane. The fluid is then aspirated. By Valsalva or Politzer inflation of the eustachian tubes, additional fluid may be forced out of the middle ear through the opening created by myringotomy. An attempt is subsequently made to relieve any possible cause of the tubal obstruction. This is frequently possible in children through adenoidectomy. Another technique,[2] though not a popular one, advocates retrograde tubal insufflation as a variation of the above procedure. Following myringotomy, air is blown through the incision from the external auditory canal, using a Politzer bag and tubing. This drives the fluid from the middle ear, down the eustachian tube, and into the nasopharynx. Another procedure, tubal catheterization, for fluid drainage, is usually contraindicated, because of the inadequacy of the suction and fluid removal and the high incidence of tubal damage by this method.[8] In all of the techniques, when the fluid is adequately removed and the tubal obstruction is corrected, the tubal cilia are allowed to resume their customary function, and the hearing rapidly returns to normal, usually with no reaccumulation of the fluid. Prophylactic tubal decongestants are applied to ensure patency of the lumen for a period of several months. They are withdrawn when hearing or drum color have regained their normal status.[2]

In chronic cases, a very successful method of insuring proper drainage of the middle ear is through use of plastic tubing, as suggested by Armstrong.[17] Since its conception, there have been several technical modifications of this principle, the development of a supplementary artificial eustachian tube.[21,22,23,27,28] These ventilating tubes are left in place from one week to several months, depending on the speed of clinical response. During this period, this external drainage and decompression theoretically permit the malfunctioning eustachian tube and middle ear an opportunity to return to their normal state. This has proved to be an outstanding technique for treatment of chronic serous otitis media. Removal of surgically resectable obstructing nasopharyngeal tissue is performed when indicated. Irradiation therapy, formerly so popularly utilized but now in disrepute, in an effort to promote regression of lymphoid tissue, perhaps could be revived. On occasion, the cause of serous otitis media may be of an allergenic nature. Benefit may then be derived from hyposensitization methods.

Some supplementary therapeutic approaches to serous otitis media include the treatment of co-existing diseased sinuses; the performance of mastoidectomy in longstanding resistant cases,[8,10] and the correction of hypogammaglobulinemia.[4]

Summary

Serous otitis media (middle ear effusion) accounts for a surprising and signficant amount of hearing loss in children. The cause of this condition is not completely understood. The therapy includes a consideration of multiple factors that may be responsible for accumulation of the fluid. One of the more recent and successful methods of combating the chronic form of this disability is the creation of the artificial eustachian tube between the middle ear and the external auditory canal. If the physician is alert to the presence of serous otitis media and acts promptly, treatment may be instituted early, thus precluding irreversible changes which could lead to permanent disability as hearing loss and disease of the mucous membranes of the middle ear.

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Animals to Protect Babies

The problem of predictability of toxicity of drugs continues to be subject to considerable scrutiny by pharmaceutical research scientists. Many thousands such scientists are at work independently or in consultation with the pharmaceutical industry, or are employed under government or private auspices. Testing of drugs before they are marketed is extremely thorough. The Pharmaceutical Manufacturers' Association states that its members made use of nearly nine million animals in 1961, including 5.7 million mice, 2.2 million rats, 739,000 chickens, 107,000 guinea pigs, 98,000 rabbits, 36,000 dogs and 18,000 cats, as well as thousands of other birds and animals. The possibiilty of drug effect upon the unborn child has not been neglected, although the recent attention this has received in the public press has caused it to be considered very gravely by all concerned. Editorial in *Chicago Medicine* (68:873), October 2, 1965.

Recent Advances in Cleft Lip and Cleft Palate Care

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Repair of the cleft lip and palate deformities rescues the child from an almost hopeless future and gives him the chance for a normal life. Recent advances in the technique of these procedures is discussed.

NO PROBLEM presented to the reconstructive surgeon is more distressing initially than that of the cleft lip and palate. The parents and family are greatly disturbed by the appearance of this deformity, particularly in the more severe forms. Unfortunately it is not an uncommon deformity occurring in some form in approximately one in every seven hundred live births in all localities. Fortunately much can be done to correct the deformities and give these little patients an opportunity for a normal life. No one subject has held more interest nor been studied more thoroughly in this field through the years. The search continues to determine, if possible, the cause of these and other malformations, for a means of preventing them as well as improved ways of surgically repairing the defects and more completely rehabilitating the patient in general. Although many questions remain unanswered, we do know that periods of stress and certain viral infections during the early part of the first trimester of pregnancy are probable causes in some cases. We believe also that certain of the vitamin B complex and folic acid provide some degree of protection against the occurrence of these deformities in a child born into a family in which a previous deformity has occurred. Heredity can be traced in approximately twenty per cent of these cases of cleft lip and palate.

My subject here deals primarily with the more recent advances made in the effort to repair and rehabilitate these patients. First, however, let us consider the beginnings in this effort in order to contrast them with what can be done today. Long ago it was appreciated that the victim of this birth defect lacked the ability to develop normal speech, could not properly swallow his food, especially liquids, was predisposed to frequent upper respiratory and ear infections with loss of hearing, suffered from poor and misplaced dentition, and was grossly unattractive when the cleft lip was present.

We have little or no specific information about the early attempts to repair these defects in ancient times although they most certainly must have existed. We do have descriptions of the early efforts made in the sixteenth and seventeenth centuries as well as others in the eighteenth and nineteenth centuries during the period of medical awakening in Europe and to some degree in this country. Dr. John Peter Mettauer, a pioneer in surgery in Virginia and this country, was probably the first to successfully repair a cleft palate in the western hemisphere. He reported this work done in

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1827 while he was practicing and teaching in Prince Edward County.[1] These beginnings were made without the advantage of anesthesia, in the face of frequent and often overwhelming infections, using crude instruments and materials as well as few supportive preparations. Some descriptions are of attempts to fasten the denuded edges of the cleft with crude metallic pins. Attempts to force the soft tissues and skeletal structures together often resulted in distortions of the anatomy more disfiguring than the primary defect. Little appreciation of the tissue limitations as well as possibilities that are known today existed then.

Initially the cleft lips were closed in a straight line after sacrificing valuable tissue which resulted in distorted lips, often excessively tight and with disfiguring notching. In the early cleft palate repairs, no attempt was made to mobilize the soft tissues independent of the skeletal structures and there were frequent break-downs of the repairs with fistula formation. In the mid-nineteenth century the peculiar capability of the denuded hard palate to rapidly re-epithelize and heal itself was recognized and this foreshadowed the principle of cleft palate closure by mobilization of mucoperiosteal flaps. Von Longenbeck, a German surgeon, is credited with contributing this principle for cleft palate closure. The procedure in principle which bears his name is still used by many surgeons throughout the world. This original procedure merely closed the defect, however, and made little or no attempt to displace the palatal tissues posteriorly. Closure of the velopharyngeal opening, thus preventing the escape of air through the nose, is one of the essentials to the good formation of speech. It was later appreciated that the soft palate tissues in the cleft palate patient are rarely sufficient to give this closure even when the cleft is small, incomplete, or submucosal. A French surgeon, Victor Veau, was one of the first to develop a cleft palate repair attempting to compensate for this insufficiency. Wardill, an English surgeon, used a similar principle somewhat later. Both men used the principle of tissue advancement by the V-Y closure of the defect thus displacing the tissues posteriorly. Other procedures have been developed to displace the tissues posteriorly; however, these are the origins of the procedure which is used most widely and which we ourselves use today.[2]

Additional refinements have been incorporated into the cleft palate repair to give a more exacting closure and greater length. These include the preservation of the neurovascular structures to the palate and freeing them for posterior displacement by the removal of the posterior wall of the bony canals surrounding them. Another is the freeing of the soft palate musculature but not sectioning it by fracturing the hamuli processes of the pterygoid bones to which they are attached. Care is taken to preserve and close the nasal mucosa overlying the palate repair to decrease the area of raw surface there and thus prevent a later contracture of the repaired palate. (Fig. 1)

In some instances, regardless of the diligent effort made to repair the palate, and even when blessed with excellent healing, the tissues available are insufficient to effect a sufficient velo-pharyngeal closure for good speech. In such instances attempts to obtain better closure by surgery using other tissues is now being attempted with promising success. One such procedure is the transfer of pharyngeal tissues to the soft palate, the pharyngeal flap method of velopharyngoplasty. Other procedures attempt to build the posterior pharyngeal wall out towards the palate by either constructing a fold or mound in the pharyngeal tissue or inserting some substance beneath the tissue.

Along with improvements in the surgical repair of the cleft palate have come valuable methods to objectively study and evaluate these repairs. These methods are based on the use of radiography in both still and

moving pictures along with a simultaneous recording of the voice.

The basic principle which has greatly improved the surgical repair of the cleft lip was first described in the mid-nineteenth century by the German surgeon, Hagedorn and later by the French surgeon, Mirault.[2] Both described procedures to stagger the line of closure of the cleft lip and thus prevent a contracture of the repair scar. These procedures have been further refined through the years and most recently repairs which develop interlocking triangular flaps in the closure of the unilateral cleft have been advocated.[3,4] All of the refinements and particularly this latter one have been attempts to preserve as much tissue as possible, appreciating that a millimeter or so of tissue in the infant represents a significant contribution to the fully grown adult lip. The latter procedure has stressed a preservation of the full cupid's bow and use of the philtrum ridge to camouflage the repair scar. (Fig. 2)

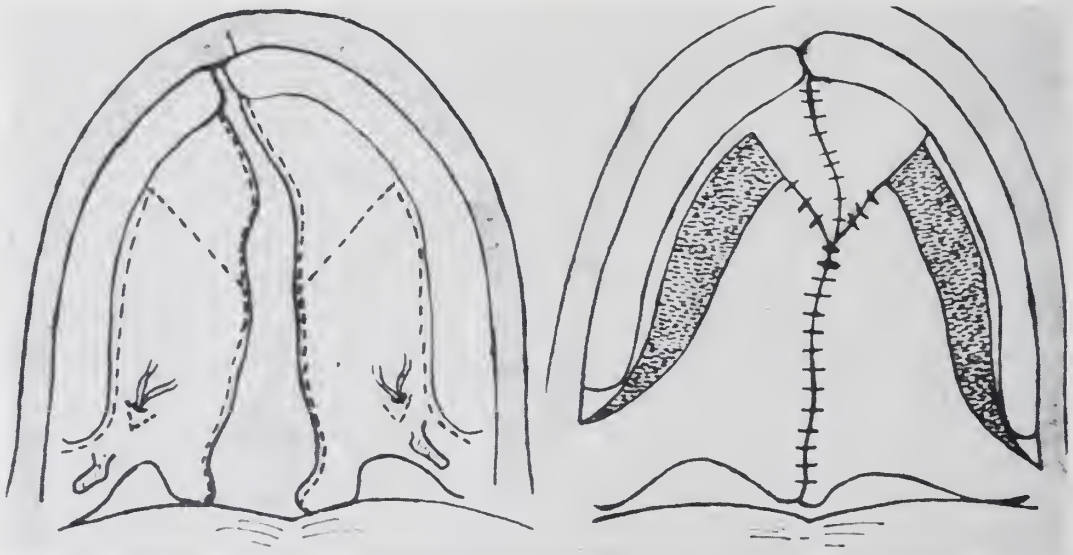


Fig. 1. (A) Dotted lines illustrate the incisions for developing anterior and posterior mucoperiosteal flaps for closure of the complete unilateral cleft palate as described. The greater palatine vessels and the hamuli processes are illustrated. (B) Closure of the elevated flaps in such a manner as to advance the palatal tissues posteriorly is illustrated.

The repair of the bilateral cleft lip is a more difficult problem. The residual deformities have been more pronounced following the repair of the bilateral cleft using the older methods. Today we do a simple initial closure of the bilateral cleft, preserving all tissue possible and leaving the refine-



Fig. 2. (A) Dotted lines illustrate the incisions to develop interlocking triangular flaps for the repair of a complete unilateral cleft lip.
(B) Illustration of the developed flaps, preserving all tissues possible.
(C) Illustration of the repair showing preservation of the "Cupid's Bow" and placement of the suture line along the philtrum ridge.

ments to be done secondarily. Such refinements, accomplished at the pre-school age or later as indicated, are construction of the cupid's bow, correcting any irregularities of the vermilion or nostrils, lengthening the nasal columella and freeing an adherent lip. Excellent anesthesia today makes these exacting procedures possible on the immobile infant. (Fig. 3, a, b, c)

It has been found that in spite of the fine closure of the cleft lip and the satisfactory closure and lengthening of the cleft palate, patients often developed distortions of the alveolar ridges such as collapse. (Fig. 4) Such collapse produces malocclusion, poor dentition, speech deformities, and secondary deformities of the nose and lip. In the middle 1950's a procedure was described using



Fig. 3. (A) Pre- and postoperative views of a unilateral cleft lip repair using the method described.



(B) Pre- and postoperative views of a unilateral cleft lip repair using the method described.



(C) Pre- and postoperative views of a bilateral cleft lip repair using the method described.

an orthopedic approach to prevent and correct this problem. This procedure consists of the use of a dental prosthesis in the in-



Fig. 4. Collapsed lateral alveolar arch in older case of cleft lip and palate repair without bone graft.

fant to bring the alveolar ridges into proper alignment and to hold them there after repair of the lip. They are then fixed in the proper position with bone grafts to close the cleft and stabilize the alveolar ridges. This procedure of positioning is also a more difficult problem in the case of the bilateral clefts. In such cases it is often necessary to apply external pressure to the displaced central segment of premaxilla and prolabium as well as to use the dental prosthesis for the lateral segments. The bone for these grafts is taken from the rib, tibia, or ulna in the infant or the iliac crest in the older patient.[5,6,7,8] (Fig. 5) Although this approach has been criticized when applied to all cases, we feel it is of great importance in some cases. To date, no one has been able to accurately prognosticate which cases will or will not benefit from it.[9]

In general the cleft lip is repaired at about three to six weeks after birth, the bilateral cleft in two stages if necessary. This early repair of the cleft lip aids in molding the skeletal structures, improves the infant's ability to take feedings and is a great psychological relief to the family. The orthopedic positioning of the cleft segment is begun in infancy and continued until the clefts in the alveolar ridge and anterior palate are closed with bone grafts at six to eight months of age, when the baby is ca-

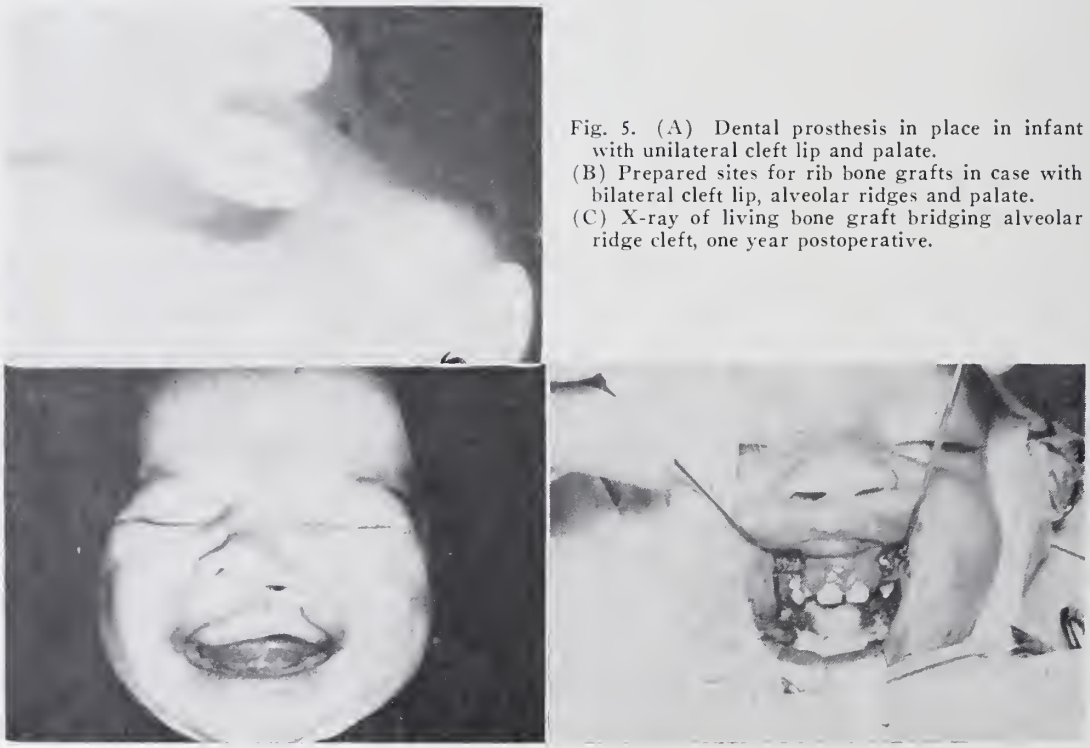


Fig. 5. (A) Dental prosthesis in place in infant with unilateral cleft lip and palate.
(B) Prepared sites for rib bone grafts in case with bilateral cleft lip, alveolar ridges and palate.
(C) X-ray of living bone graft bridging alveolar ridge cleft, one year postoperative.

pable of tolerating this somewhat more formidable procedure. The posterior palate cleft is repaired at about eighteen to twenty-four months of age or before the beginning of speech. These are the principles followed in the improved methods of primary repair of the cleft lip and palate today.

Much also can be done for the older patient who had a cleft lip or palate or both repaired some twenty or thirty years ago before the methods or repair were as refined as they are today. Some revision of the lip scar, a shift of tissue perhaps, or correction of an associated nose deformity can do much to decrease the disfigurement in such cases. An old palate repair may be short, scarred and immobile or have multiple oral nasal fistulae. Many of these can be greatly helped by additional surgery using the newer techniques resulting in an improved appearance, better speech, and overall function. (Fig. 6)



Fig. 6. Pre- and postoperative views of secondary repair of a unilateral cleft lip in an adult.

Possibly the most important recent development resulting in better overall care for these unfortunate individuals has been the use of a team approach in their care. Such a team consists of the reconstructive surgeon, an orthodontist, and prosthedontist from the field of dentistry, a speech pathologist or therapist, a pediatrician, a psychiatrist and social worker or at least the latter three on a consultation basis. The patient with the deformity is presented to the group when first seen after birth. The general cause of therapy is then outlined. As the therapy proceeds, the patient is seen by the group at intervals. The results and progress are evaluated from each aspect and additional recommendations are made. In this way important aspects are less likely to be overlooked and a more desirable sequence of therapy is developed.

We believe that with the advantage of the recent developments in therapy administered under this surveillance we can now give these patients a much greater opportunity of having a normal or near normal speech, ability to swallow, good dentition, minimal disfigurement in appearance, with freedom from maladjustment and psychological problems.

Summary

Recent advances in the repair of the cleft lip and palate deformities along with the improved after care and rehabilitation of these patients has been described. These procedures and the results have been briefly contrasted with those in the past. These advances include a repair of the cleft lip which strives to preserve all tissues possible and to restore a normal cupid's bow to the lip while placing the repair along with the normal philtrum ridge for camouflage. Bilateral cleft lips are closed simply and in stages when necessary attempting to pre-

serve all tissues possible. Refinements of the bilateral cleft lip repair are delayed until growth and improved position have taken place.

The cleft palate is closed by the mobilization of mucoperiosteal flaps which are advanced posteriorly to give as much tissue for velo-pharyngeal closure as possible. Procedures to supplement the cleft palate repair when velo-pharyngeal closure is insufficient are described. These include various techniques of velo-pharyngoplasty.

A technique which has been described as an orthopedic approach to prevent or correct collapse of the alveolar arches is described. Dental plates are used in infants to prevent the collapse of the arches which are later fixed in position with bone grafts.

In conclusion the team approach to the care of the cleft lip and palate patients is described and its importance stressed.

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Danger—Bathtub Ahead

Ill-advised statements and actions since the thalidomide phenomenon, aided by the unbalanced perspective given these statements in the lay press, have contributed to the public's apprehension—approaching hysteria—concerning the side effects of drugs. To the extent that this concern admonishes greater caution and alertness in the use of drugs, some good may be salvaged from the thalidomide tragedy. But to the extent that it deprives patients of useful new drugs or frightens a physician into withholding needed therapy from his patients, it is regrettable. We must not forget that there is no progress without risk, whether it be in the field of electricity, the motor car, the airplane, atomic energy, space exploration, or drugs. Even a bathtub can be perilous, as astronaut John Glenn discovered. Theodore G. Klumpp, M.D., in *Massachusetts Physician* (28:207-208), June-July 1965.

Hemophilus Aphrophilus Endocarditis—Treated with Ampicillin

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A case of nonstreptococcal bacterial endocarditis, successfully treated, is presented. Some of the problems associated with this type infection are discussed.

SINCE THE ONSET of the antibiotic era, the etiology of bacterial endocarditis has undergone change. The streptococci still remain by far the most common organism infecting the heart valves; however, the frequency of non streptococcal endocarditis is increasing. This increase, noted by Hunter and Patterson in 1956,[1] and evident in several more recent reviews[2,3,4] has been in large part due to the emergence of the staphylococci and gram negative bacilli.

Hemophilus endocarditis is distinctly uncommon. A comprehensive review of nonstreptococcal endocarditis by Jones[5] in 1948 revealed only twenty-five reported cases of endocarditis caused by the Hemophilus species. More current reviews[4,6,7] substantiate the rarity of this organism as an etiologic agent.

This report deals with a patient with H. aphrophilus endocarditis who was successfully treated with ampicillin.

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Case Report

This was the second admission to the McGuire Veterans' Hospital for this 44 year old white male. He was previously admitted here in 1955 because of a fracture of the fourth finger, and a murmur of aortic insufficiency was noted and attributed to old rheumatic fever. He apparently did well until six weeks prior to the present admission when he began to note nocturnal fever, chills, and sweats. Three weeks prior to admission, the patient had an episode of migratory arthralgia involving the knees, shoulders, and elbows. Shortly thereafter, he consulted a local physician who prescribed oral sulfa and penicillin for one week. His symptoms and low-grade fever persisted, and he was then referred to the Veterans' Hospital for futher evaluation. There were no symptoms to suggest congestive heart failure or embolic episodes.

The patient's past history was relevant in that he was told he had "heart trouble" upon discharge from the military in 1945 and that some four months prior to his present admission he had a tooth extraction without antibiotic coverage.

On admission the blood pressure was 120/70, pulse 92/minute, and temperature 98.8 (rectal). The physical examination was unremarkable save for a generalized shotty lymphadenopathy and a grade 2/6 blowing diastolic murmur at the primary aortic area, and left sternal border. There was no clinical cardiomegaly.

Admission laboratory data revealed a WBC count of 9,400 with a normal differential. The hematocrit was 40 volumes % and the hemoglobin 12.5 grams%. A uri-

nalysis was within normal limits. An STS was non reactive. BUN was 11 mgm%, SGOT was 20, total serum proteins were 7.6 grams% with 3.8 grams% globulin, ASO 166 Todd units, and latex agglutination was reactive. Five of seven paired blood cultures grew out an Hemophilus aphrophilus. Serial serum transaminase (SGOT), BUN and urinalyses done twice weekly throughout the patient's hospitalization remained within normal limits. Bilirubin, alkaline phosphatase, and transaminase done just prior to discharge were well within normal limits. Tube dilution sensitivities (Table I) and serum bactericidal

TABLE I

Antibiotics	*Minimal Inhibiting Concentration*
penicillin G	12.5 u/cc
kanamycin	1.56 u/cc
chloromycetin	1.56 u/cc
dihydrostreptomycin	1.56 u/cc
ampicillin	.78 u/cc
tetracycline	.78 u/cc

level dilutions (Table II) were also done.

TABLE II

Patient's Antibiotic Therapy	*Dilution of Serum with Bactericidal Activity*
1. Oral ampicillin plus intramuscular streptomycin (blood drawn 90 minutes following ampicillin 1.5 gram po).	1:32
2. Oral ampicillin plus Intramuscular streptomycin (blood drawn three hours following ampicillin 1.5 gram po).	No bactericidal activity
3. Intravenous ampicillin (9 grams daily—continuous infusion) plus I.M. kanamycin plus I.M. streptomycin. (Blood drawn 12 hours following kanamycin and streptomycin injection).	1:64

Serial EKGs were interpreted as normal. Chest x-ray on admission revealed mild left ventricular prominence, and repeat x-ray at discharge revealed no change in heart size. Serial audiograms remained normal.

The patient ran a low-grade rectal temperature of 100.2°-100.6° for the first three days of his admission. Therapy was then begun with 15 million units of penicillin I.V. and two grams of streptomycin I.M. per day plus probenecid. The following two days were marked with temperature spikes to 101° and 102°. Penicillin dosage was then increased to 30 million units daily. Shortly thereafter, the infecting organism was identified as a gram negative rod, and penicillin was discontinued, and ampicillin* 1.5 grams orally every four hours was begun. Over the next 48 hours, the temperature remained in the 100-100.4 range. The appearance of an urticarial rash was noted 60 hours after instituting ampicillin therapy, and prednisone, 40 mgm. daily was added. Within 12 hours after instituting steroid therapy the temperature had fallen to normal, and the patient remained afebrile throughout the remainder of his hospitalization. Shortly after beginning the patient on prednisone, kanamycin .5 gm. I.M. twice a day was started, and continued for 12 days. After seven days of oral ampicillin, parenteral ampicillin was obtained and the patient was changed to nine grams of ampicillin intravenously per day which he received for the next 29 days. The remainder of his hospital course was uneventful save for a re-flare of his allergic dermatitis when the prednisone was reduced below 7.5 mgm. per day. In summary, the patient received 29 days of I.V. ampicillin, seven days of oral ampicillin, 39 days of streptomycin, three days of penicillin, and 12 days of kanamycin. Patient was discharged on April 6, 1964. At that time his blood pressure was 120/80 and his aortic diastolic murmur remained grade 2/6. When seen in follow-up two weeks after discharge, he was feeling well, his temperature (taken at home) had remained normal and his cardiac findings were unchanged. Follow-up examination 11 months after discharge revealed patient to be afebrile and asymptomatic. He had gained 23 pounds in weight and was able to carry on full time duties as a filling station operator. His car-

*In the form of Polycillin, kindly provided by The Bristol Laboratories, Syracuse, New York.

diac findings were again unchanged. Extensive studies failed to show any evidence of recurrence of his subacute bacterial endocarditis or of cardiac failure.

Discussion

The prognostic outlook of patients with nonstreptococcal endocarditis is unfavorable. It has been estimated that this diagnosis carries with it an approximate 80% mortality rate.[3] The clinician is not only faced with the viciousness of the more immediate course, but also with an alarming incidence of post treatment sequelae. Pearce and Guze[8] reported nine cases of gram negative endocarditis, seven of whom were dead within one year after treatment. The major cause of death following bacterial cure is congestive heart failure, most frequently as a result of further distortion or rupture of the affected valve. In a recent review on the sequelae of bacterial endocarditis,[6] it was shown that the incidence of valvular perforation has increased threefold since the introduction of antibiotics, and this increase was attributed to the change in the usual bacterial flora of endocarditis. The organisms primarily responsible for this alteration are the staphylococci and the gram negative bacilli.

The single most important factor in reducing the universal mortality seen in bacterial endocarditis of yesteryear has been the advent of penicillin. Its ability to penetrate fibrin[9], together with its bactericidal activity and relatively low toxicity accounts for penicillin's effectiveness in this disease. Unfortunately, the hallmark of the vast majority of microorganisms causing nonstreptococcal endocarditis is penicillin resistance. Present day antimicrobial therapy for gram negative bacilli infections leaves much to be desired. The antibiotics to which these organisms are usually sensitive are for the most part bacteriostatic, thereby greatly limiting their use in endocarditis. The polymyxins and kanamycin have been offered as bactericidal agents capable of acting on gram negative bacilli; however, the significant neural and renal toxicity associated with these drugs, particularly in long term administration, tend to make them last resort therapeutic measures in endocarditis. Cures of gram negative bacillary endocarditis in which various antimicrobial regimens were used (neomycin and polymyxin[2], oxytetracycline and streptomycin[2], streptomycin[10], penicillin, streptomycin and a bacteriostatic agent[11]) have been reported. Nonetheless, it cannot be denied that consistently adequate treatment for gram negative bacillary endocarditis is not available at the present time.

The recent introduction of a new member of the penicillin family, ampicillin, has evoked considerable interest. In two recent articles, Klein and Finland[12,13] have reported the properties of this semisynthetic penicillin and reviewed the pertinent literature. Ampicillin's bactericidal activity (in vitro) not only includes the gram positive cocci (although less potent in this regard than penicillin G), but also certain of the gram negative organisms, namely, H. influenzae, Salmonella, and some E-coli.[13] It is inhibited by penicillinase producing organisms. The major routes of excretion are via the kidney and biliary tract, and serum levels of ampicillin are increased and sustained when given in combination with probenecid.[13] Other than sensitivity reactions, little is known concerning the possible toxicity of ampicillin. One report[14] tells of four infants who showed elevated SGOT levels while receiving ampicillin; however, no pretreatment SGOT levels were obtained. The elevated serum transaminase returned to normal in all four patients either while still receiving the drug or after its discontinuance. Our patient received a total of more than 300 grams of ampicillin, and serial transaminases done throughout his hospitalization, as well as a battery of liver function tests at the conclusion of his therapy were all within normal limits.

The therapeutic usefulness of ampicillin

was well demonstrated in our patient with H. aphrophilus endocarditis. The in vitro sensitivity of this organism to .78 u/cc of ampicillin (Table I) and serum bactericidal level at a dilution of 1:64, and most importantly the clinical course, document its effectiveness. Initially, the patient was treated wtih 1.5 grams of ampicillin every four hours along with probenecid, and this resulted in a serum bactericidal level at a dilution of 1:32 (blood specimen drawn 90 minutes following oral dose). However, no serum bactericidal activity could be demonstrated three hours following the oral dose of 1.5 grams of ampicillin. It was then decided to add parenteral kanamycin to the antibiotic regimen until parenteral ampicillin could be obtained. The classic work of Weinstein et al[9] using fibrin clots subcutaneously planted in rabbits, revealed that the concentration of penicillin in the clot was directly related to the dose of I.M. penicillin, and that after equilibrium between the clot and the serum had been reached, the concentration of penicillin in the clot remained elevated for several hours despite a dropping serum concentration. Thus, it might be argued that the concentration of ampicillin within our patient's infected valve was ample despite the lack of serum bactericidal activity at three hours and that the switch from oral to parenteral ampicillin, as well as the addition of kanamycin, was unnecessary. However, when dealing with a patient with endocarditis, and particularly in view of the concomitant steroid therapy, as well as the unpredictability of uniform gastrointestinal absorption, we felt justified in making the above changes.

Lastly, a brief note on the use of steroids in patients with bacterial endocarditis. The development of an urticarial rash six days following the initiation of ampicillin therapy necessitated the use of prednisone in this patient. It is well known that steroids can suppress the allergic phenomenon associated with drug hypersensitivity. Theobald and Grace[15] reported four cases of bacterial endocarditis who received prednisone together with penicillin because of penicillin allergy. In three patients, apparent cures were achieved. The fourth patient died of Candida endocarditis which might well be attributed to the steroid therapy. Whether use of steroids in patients with endocarditis will be advantageous or detrimental, must simply await the reporting of more cases so treated and the long term follow-up of those already treated. It should be remembered that some cases of bacterial endocarditis, although rare, are due to mixed infections,[16] and adequate antibiotic coverage for one of the organisms, may not be ample for the other. In this instance, the introduction of steroids could be of great harm.

Summary

An unusual case of bacterial endocarditis caused by H. aphrophilus is presented. The patient was successfully treated with ampicillin, a new member of the penicillin family. Some of the therapeutic problems associated with nonstreptococcal bacterial endocarditis (with particular reference to the gram negative bacilli) are discussed.

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Biometeorology

A new science, representing a mix of physicians and weather experts, reveals the ways in which atmospheric conditions, climate, weather and seasons are related to human health.

The biometeorologists, as they call themselves, chart the courses of certain diseases under varying weather conditions. Here are some of their findings:

Asthma attacks appear to increase with sudden cooling and low barometric pressure, but are infrequent during high pressure and fog. Most acute glaucoma occurs on very hot or very cold days. Urinary tract pain (renal colic) is common after an influx of cold, humid air. Peptic ulcer perforations occur mainly during drastic changes in air masses, and the incidence is highest in May and November.

Digitalis is dangerous in rising atmospheric temperature. The toxicity of central nervous system stimulants, such as caffeine and amphetamine, rises as the temperature falls.

The experts also report that traffic accidents rise during thunderstorms, not so much because of road conditions as because of slowed driver-reaction time due to changes in the atmospheric electricity field. These changes may also cause births to rise 11 per cent, deaths 20 per cent.

The report was issued by the World Meteorological Organization, a specialized agency of the U.N.—*Med. World News*, Sept. 3, p. 79.

(Reprinted from Schering Science Bulletin)

Treatment of Acne Vulgaris with Secomat® -S Lotion

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An astringent keratolytic and antimicrobial lotion is used successfully in treating acne vulgaris.

ALTHOUGH the exact pathogenesis of acne vulgaris has not been established, the following functional changes are known to occur in the pilo-sebaceous apparatus:[1] (1) Faulty flow of sebum resulting in increased sebaceous material on the skin; (2) Faulty keratinization of the pilo-sebaceous openings resulting in plugging or comedone formation; (3) Inflammation of the plugged pilo-sebaceous apparatus; and (4) Bacterial invasion of the pilo-sebaceous apparatus resulting in pustulation.

Therefore, topical therapy must be designed to (1) either decrease or remove the excessive amount of sebum, (2) remove or prevent formation of excess keratin and follicular plugs, and (3) relieve inflammation and infection secondary to 1 and 2 above. Astringent lotions designed to produce this effect must also be cosmetically acceptable to the patient.

For some years, lotions containing precipitated sulfur and/or resorcinol have been found to be effective in preventing some acne. More recently the addition of a sulfonamide to the astringent lotion has been found to be effective in preventing some pustulation.[2,3] Similar lotions have been recommended for the treatment of rosacea[4] and severe seborrheic dermatitis.[5,6]

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Recently we have had the opportunity to evaluate a lotion containing 10% Sulfacetamide Sodium, 5% Precipitated Sulfur in a lipid-free lotion vehicle containing 26.7% S.D. Alcohol.* The lotion is formulated to produce a thin, non-sticky, drying film which is slightly tinted with iron oxide so that it is imperceptible when applied to the skin.

Methods and Materials

Secomat-S Lotion was prescribed for 104 consecutive patients with acne vulgaris, rosacea and seborrheic dermatitis. Thirty-three had mild comedone or papular acne, but the majority (61 patients) had papular-pustular or pustular-cystic types. Six had rosacea and four had severe seborrheic dermatitis. Patients with mild acne or seborrhea were instructed to use the lotion twice daily. Those with more severe pustular types or rosacea were required to use the lotion three or four times daily. All patients used an astringent cleanser such as Seba-nil, three to four minutes prior to the application of the lotion. Some patients received oral antimicrobic agents during the initial phase of treatment, and all were given a simple diet eliminating chocolate, nuts, and cola beverages. Each patient was followed for a minimum of three months which allowed sufficient time to evaluate both the effectiveness of the medication and any side-effects.

Results

The results of treatment with Secomat-S Lotion are summarized in table 1. Since

* Secomat-S Lotion, supplied by Dr. Robert E. Lyons, Texas Pharmaceutical Company, Box 1657, San Antonio, Texas.

astringent therapy is primarily prophylactic rather than curative in nature, there was little or no improvement noted initially. After six weeks of therapy, however, there was improvement noted in all but four patients in the series.

TABLE I

RESULTS OF TREATMENT WITH SECOMAT-S

Condition	No. Patients	Excellent	Good	Fair	Poor
Acne					
Comedo-papular	33	21	11	1	0
Papulo-pustular, cystic	61	39	19	2	1
Seborrheic Dermatitis	4	3	1	0	0
Rosacea	6	6	0	0	0
TOTAL	104	69	31	3	1

Of 33 patients with comedone or papular acne, 32 (98%) had good to excellent response to therapy; of 61 with pustular acne 58 (97%) had good to excellent response. All six patients with rosacea showed excellent results and three of the four patients with seborrheic dermatitis had excellent results.

There were no adverse effects reported by the patients or observed in this series. One patient developed over-drying in one area of his face because of the over-use of the preparation. This promptly cleared after reducing the application from three times a day to two times a day.

Discussion

Treatment is primarily prophylactic in nature and should be instituted early in the disease when it is in a mild form. The constant removal of excess sebum and keratin plugs in the pilo-sebaceous orifices by a suitable keratolytic, astringent lotion is basic in the management of this disease. The addition of an antimicrobial agent such as Sodium Sulfacetamide enhances the effect of the astringent keratolytic lotion by reducing the number of infective organisms in lesions. Secomat-S, an astringent, keratolytic and antibacterial lotion was found to be both therapeutically effective and cosmetically acceptable when used after astringent cleansing and in conjunction with dietary instructions.

Severe cases of acne require, in addition to astringent therapy, the use of antimocrobial agents by mouth, peeling paste, cryotherapy and/or x-ray therapy. Fortunately, the majority of the cases can be managed successfully with the proper use of astringent cleansing and astringent lotions as outlined above.

Summary and Conclusion

The management of acne vulgaris is basically prophylactic. The use of an astringent cleanser followed by an astringent keratolytic and antimicrobial lotion such as Secomat-S is basic and effective in the management of mild to moderate cases. It is also effective in the management of severe cases in conjunction with other methods such as oral antimicrobial agents, peeling paste, cryotherapy, and x-ray therapy.

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Bitemporal Bulging and Thinning of the Skull

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The temporal lobe agenesis syndrome is rare and bilateral involvement has not been reported previously. There are characteristic changes in the skull x-ray and in the cerebral arteriogram.

ROBINSON[9] has described the temporal lobe agenesis syndrome which radiographically presents as a bulging and thinning of the temporal bone and elevation of the lesser wing of the sphenoid. He states that the carotid arteriogram shows on the affected side an almost vertical origin of the middle cerebral artery. In 10 cases he has reported, 6 were operated and 1 came to autopsy. In these he found a lack of development of the temporal pole and sometimes of the frontal lobe with an external hydrocephalus occupying this space and associated with the cranial deformity. The 3 other cases had the skull changes but no confirming surgery was performed. Of those operated, 3 had associated subdural hematoma. Some authors[3,4] have attributed the skull changes to the subdural hematoma but Robinson[9] states that it is more likely that the external hydrocephalus was the original lesion as hematoma is not an uncommon complication in these patients following trauma.

It has been reported[2] that cranial changes most likely occur in childhood and distortion of the skull in adults is rare although it has been found with meningioma. Childe[2] has found neurofibroma, astrocytoma, and ventricular dilatation as cause for bulging of the skull in children. However, he reports subdural hygroma was the etiology in 7 of 13 cases operated.

Starkman[12] describes 4 cases of cerebral arachnoid cysts with "compression" of the temporal lobe and bulging of the skull.

Robinson[9] has proposed the temporal lobe agenesis syndrome which may include many cases previously described as chronic subdural hygroma or arachnoid cyst. The incidence is more common in males, 4:1. Symptoms are not common but headache is the most frequent complaint. Epilepsy has been reported rarely. Examination of the skull reveals the hard, non-tender bulging of the temporal area. This may be noticed only when trauma calls attention to the head. Sometimes the defect is only apparent on x-ray. Neurological signs are absent or questionable. The left side is more often involved than the right, 3:2. Air studies may show a shortened temporal horn. The external hydrocephalus does not fill with air on lumbar encephalography. The arteriogram shows a nearly vertical middle cerebral artery.

As no case of bitemporal bulging and thinning of the skull has been discovered in the literature, the following case is presented. It is believed to belong in the temporal lobe agenesis syndrome.

Case Report: A white, married, 41 year old woman was admitted to St. Elizabeths' Hospital in August 1962 with the diagnosis of schizophrenic reaction, chronic undifferentiated type. She was confused, showed memory defects and inappropriate affect but was not delusional.

Past medical history revealed that she was an only child, born in Smithfield, Virginia, by forceps delivery and was told that there

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was some injury at the time. However, her childhood was normal and she completed 11 grades in public school and 1 year of junior college before taking further training in New York. She had worked as a clerk-typist and done illustration work. In 1947 she married and in 1951 had her first child which precipitated a "nervous breakdown". Since then she has had many hospitalizations for mental illness. The only significant history is the development of diabetes in 1956.

Physical examination was normal except for diminished deep tendon reflexes in the upper extremities and absence of reflexes in the lower extremities. Laboratory findings were also unremarkable except for elevated blood sugars.

A routine skull film (Figs. 1 and 2) showed an unusual bitemporal bulging and



Fig. 1. PA skull shows the unusual localized bilateral thinning and bulging of the skull.

thinning of the squamae. The lesser sphenoid wing on either side was elevated, the greater wing pushed forward and the middle fossae were quite deep. The sella turcica was elongated and flattened. Because of this finding, pneumoencephalogram was performed.

Figure 3 demonstrates the markedly dilated third and lateral ventricles without midline displacement. The temporal horns were not



Fig. 2. Lateral view shows the flattening and elongation of the sella and deepening of the middle fossa at the expense of the anterior and posterior.



Fig. 3. Pneumoencephalogram shows in the AP projection, the dilated ventricles with lack of filling of both temporal horns. NOTE: The radiolucency over the temporal area is due to the thinning and not air as is apparent when compared with the plain films.

completely filled and appeared cut off. The fourth ventricle was poorly visualized and the Aqueduct of Sylvius and cisterna pontis could not be seen.

Later a carotid arteriogram was performed. Injection on the right was not satisfactory as the syphon was not filled. On the left, however, (Figs. 4 and 5) the anterior



Fig. 4. Carotid arteriogram on the left with cross filling of vessels on the right demonstrates the dramatic obliquity of the middle cerebrals and with the anterior cerebrals the "trident" effect.

and middle cerebral branches were outlined as well as these vessels on the opposite side. The appearance in the AP view was most striking with a "trident" effect produced by the midline anterior cerebral arteries and the middle cerebral branches which traversed obliquely upward and toward the periphery. The usual transverse course of the middle cerebral artery was not seen on the left but instead there was a sharply oblique take-off from the internal carotid. The transverse course on the right is quite short before the oblique direction is seen. In the lateral view (Fig. 5) the middle cerebral was elevated, rounded, and stretched as if displaced by a space-occupying lesion. The sweep of the anterior cerebral was explained on the basis of hydrocephalus. The findings were quite symmetrical and in view of the lack of neurological findings to indicate increased intracranial pressure, it was believed to be a congenital lesion and no surgical intervention seemed warranted. The hydrocephalus may be related to anatomical change of position of the adequct. The elongation and flattening of the sella is explained as secondary



Fig. 5. Lateral view of the left carotid injection shows the upward sweep of the middle cerebral and crowding of these vessels.

to the hydrocephalus with delay of closure of the basisphenoid suture or partly produced by the enlarged third ventricle which according to Marusiak[6] causes elongation of the sella, thinning of the dorsum and changes in the tuberculum sellae.

Summary: A case of bitemporal bulging and thinning of the skull is presented and described as most likely due to agenesis of the temporal lobe with localized external hydrocephalus. The characteristic skull films and the "trident" effect seen on the cerebral arteriogram are brought to the attention of the radiologist who may be challenged to make this rare diagnosis.

Addendum: There has recently come to autopsy at this hospital a 63 year old man who had been diagnosed as Little's disease.

He had mental deficiency, lack of motor development and spasticity. He had not been able to walk or talk and existed as a helpless creature. Grossly the brain showed agenesis of the frontal lobe on the left and a large portion of the anterior left temporal and parietal lobes. The lateral ventricle communicated with a localized cyst in this area. Such communication with the subarachnoid space may account for the lack of obvious bulging.

My gratitude is expressed to Dr. Giovanni Di Chiro, Miss Meta Neumann, Miss Laura Stewart, and Mrs. Gertrude Melton.

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The Bright Future of Drug Research

Drugs of the future will be better tolerated by patients and will act with greater specificity. In the field of radiology, new agents will facilitate x-ray diagnostic procedures of the brain. Space medicine research promises to bring a beneficial fall-out of drugs for use in vestibular malfunctions, protection from harmful radiation, and reduction in fatigue. Other exotic areas of research may produce compounds that offer protection from extreme heat, and others from extreme cold. A pill that would repel insects is another possibility. The future of drug research was never brighter. The results will add to man's longevity, and will reduce the discomfort, suffering, and disability of disease.—Austin Smith, M.D., in *Emory University Quarterly* (21:141), Summer 1965.

Ten Years Private Experience With Endoscopy—Foreign Bodies

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Seventy five cases of foreign body in the esophagus or tracheo-bronchial tree have been treated successfully. These are considered and two cases of more than usual interest are reported.

FROM A REVIEW of the literature it would appear that the general public is more aware of its eating habits, as well as the type of food planned for its children, than was indicated from earlier records. It is to be noted that peanuts especially are recognized as a hazard and are not given to young children.

Each year there appears to be a decrease in the number of foreign bodies that become lodged in the esophagus and tracheo-bronchial tree. This observation concurs with my personal experience, and here again education has played an important part in this decrease. It is a recognized fact that dentures, particularly the upper plate, tend to increase the number of esophageal foreign bodies. Recently the American Broncho-Esophageal Society, in conjunction with the American Dental Society, instituted a teaching program with this hazard as its emphasis.

In the past ten years I have removed seventy-five foreign bodies from the esophagus and tracheo-bronchial tree, and as in comparative reports the greater number was removed from the esophagus. In the majority of reported cases the surgical procedure was performed under a general anaesthesia, and here, in my opinion, I might say that ether is the anaesthesia of choice for tracheo-bronchial foreign bodies in children. Although an operating team can be helpful, it is not necessary. The cases in this series were handled successfully with a nurse and an anaesthesiologist. In children the length of time of the operation is the most important factor in the management of foreign bodies in the tracheo-bronchial tree. Cases here reported were completed in five minutes or less. If the operative procedure requires more time a tracheotomy may be necessary.

A statistical report of foreign bodies in the esophagus and in the tracheo-bronchial tree reads as follows:

Foreign Bodies in the Esophagus		*Foreign Bodies in the Tracheo-Bronchial Tree*	
Fish bones	3	Apple	2
Chicken bones	19	Peanuts	5
Open safety-pins	5	Wood	1
Bones	11	Bones	1
Peanut	2	Leaf	1
Coins	10	Carrot	1
Miscellaneous	5	Tack	1

Most observers report that peanuts found to be lodged in the tracheo-bronchial tree produce severe local and systemic reaction. This was not found to be true in the limited number of cases included in this report; therefore, no conclusions can be drawn.

Incidentally, and from a layman's point of view, a recent Virginia paper reported as

Presented at the Annual Meeting of the Virginia Society of Ophthalmology and Otolaryngology, Williamsburg, May 7, 1965.

follows: "The tickle in the throat of a fifty-six year old H. E. Mayes is gone. So has his liking of peanuts. Two years ago one got stuck in his throat. He coughed and the peanut moved. Mayes developed a hacking cough that until recently defied analysis. Doctors finally learned that the peanut was lodged in Mayes' lungs and removed it." This story has its merits.

At this point I should like to comment on two cases of particular interest to the profession.

A seventy-five year old well nourished white female was admitted to a Richmond Hospital on March 22, 1963, with dysphasia and a history of having choked on a peanut four days before. She stated that at the age of seven years she had swallowed lye which resulted in esophageal strictures. In 1932 an orange seed had lodged in her esophagus and for which she was admitted to the Medical College of Virginia. After unsuccessful attempts to remove it endoscopically she was operated upon by the late Dr. Isaac A. Bigger who removed the seed by an external approach:

On the day of admission to my service this patient, under a general anaesthetic, was operated upon. A #10 esophagoscope was passed without difficulty to the point of the middle one-third of the esopahgus. No foreign body was seen, but a stricture with a very small lumen was noted. The operation was discontinued and on the following day a series of x-rays with barium was taken. (Fig. 1) Here you will note the presence of several strictures showing the peanut to have passed through the first stricture and to be lodged near another. Two days later a #6 scope was used and forced through the first stricture producing considerable bleeding. The peanut was visualized and removed in pieces. The esophagus was dilated. The patient made an uneventful recovery.

The second case is not included in this series.

In February of this year a sixty-three year old well nourished white female was referred with a piece of meat in her esophagus. She gave a history of dysphagia and choking since childhood. All of her life she had followed a special diet. She had had



Fig. 1

repeated physical examinations in outstanding medical centers, the last having been in 1952. The patient stated that no specific treatment had been advised. A physical examination revealed a well nourished white female in acute distress. Heart and chest were negative. Laboratory report revealed hemoglobin 13 grams, WBC 8100 and RBC 4,200,000. Differential was normal. X-ray (lateral neck view) revealed a foreign body in the cervical esophagus at the level of 6C. Under general anaesthesia a piece of meat was removed, after which a shelf of tissue was markedly noticable on the posterior wall of the esophagus causing a constricture with a lumen which admitted only a suction tube. The operation was discontinued. Two days later a series of x-rays was made. (Fig. 2) It is to be noted that a web of the cervical esophagus at the level of 6C can be seen with almost complete obstruction.

The following day, under general anaesthesia and direct vision, this area was dilated with increasing size of rattail Bou-

gees, when suddenly the web ruptured and permitted the Bougees and scope to pass through readily. The patient made an uneventful recovery and has experienced no difficulty in swallowing solid foods. Post operative study with barium revealed a normal esophagus.



Fig. 2

A review of the literature from 1952 to 1964 revealed two reports of congenital webs of the cervical esophagus in adults. The first, by Waldman and Turnbill of Vancouver, Canada, in 1957, reported four cases one of which was treated by excision of the web resulting in a ruptured esophagus. The other three were treated by dilatation. The second report was by Adler of Buffalo, New York, in 1962, which included two successfully treated cases.

The pediatric surgeon, Gross, in his text book, mentioned thirty-eight cases of congenital webs in children with 25% of the webs being in the upper one-third of the esophagus.

In my series there was one complication, that being in a sixty-five year old white female who had a piece of bone with meat lodged in the lower esophagus. It was removed with difficulty and was followed by protracted vomiting. The esophageal rupture was recognized early, and with surgical and medical care a complete recovery was effected. I assume that the rupture was produced by the esophagoscope in the removal of the foreign body.

Professional Building
Richmond, Virginia

Salt and Acne

Limiting use of salt appears to have a beneficial effect on acne, reports Dr. L. Edward Gaul of Evansville, Ind.

Many adolescents use salt freely—on French fries, in franks, popcorn, potato chips and other snack foods. The urine of 30 patients with acne was tested: the quantity ranged from 12 to 20 grams of salt per liter with the majority in the 15- to 20-gram range. Normal body needs are easily met with less than 1 gram a day.

Low salt diets were prescribed. In each case acne lesions began to clear within two weeks and had disappeared in two months.

A 17-year-old girl, pleased with her clear complexion, commented: "My snacking days are over." A 14-year-old school boy had had pimples and blackheads for a year and went to the doctor at the time of an acute flare-up. With salt restriction the majority of lesions disappeared in one month. He attributed the flare-up to nightly bowls of salty popcorn.

The growth spurt at puberty increases the salt intake during adolescence. During this period, the appetite is phenomenal. "A dietary imbalance during this critical development period might easily and adversely affect hormonal adjustment as well as the disposition of these nutrients."—*J. Ind. State Med. Assn.*, Aug., pp. 839-842. (Reprinted from Schering Science Bulletin)

Clinicopathological Conference . . . .

Diarrhea, Anemia and Emaciation

Prepared and Edited by
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CLINICAL DISCUSSANT:

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Instructor, Department of
Internal Medicine

This conference was held on January 9, 1965.

UVH # 53-08-33
Autopsy No. 9932

Clinical History

This 28-year-old Negro woman, formerly a singer, was referred from Norfolk because of diarrhea and vomiting and profound cachexia for several months.

Her referring physician stated that from two to three years previously she had been seen frequently for "gastrointestinal pains" and urinary tract infections. At that time her weight was 136 pounds, hematocrit 30 percent, a Coombs tests was negative, and reticulocyte count was 1 percent. X-ray studies of the bowel were unremarkable. She apparently remained in adequate health with no further studies or treatment until nine months prior to admission here, when she developed weakness and weight loss with occasional mild diarrhea. Eight months prior to admission she was hospitalized elsewhere and found to be quite anemic and weighed 117 pounds. Laboratory studies included hematocrit 14 percent, positive Coombs test, serum iron 148 gamma and iron binding capacity 278. White-cell count 12,000, LE and sickle preps negative, and bone marrow showed erythroid hyperplasia. A lymph node biopsy was negative, and she was placed on prednisone, 15 mg. t.i.d. On two occasions six and five months prior to admission a laparotomy was done because of acute abdominal pain. Findings consisted of "acute salpingitis and peritonitis" without other remarkable abnormalities. She was not transfused because of difficulty in cross-matching despite a hematocrit of 26%. She remained on prednisone, but lost down to 70 pounds at the time of admission here. Prior to transfer because of progressive weakness and intractable vomiting and diarrhea, she was found to have 3+ proteinuria with normal "hepatic enzymes", BUN, gastric acid and serology. She had recently been having 3-10 loose stools daily without obvious fat, blood, mucus or tenesmus. Anorexia and dysphagia of somewhat bizarre description were noted. Amenorrhea had been present since May, 1964.

Past medical history consisted of an incomplete and infected abortion in 1958. Social history was turbulent, including having been raised in a foster home, having a twelve-year-old defective child, and having been divorced.

Physical examination revealed a dramatically emaciated woman, markedly cachectic, and somewhat evasive or drowsy or depressed. She complained occasionally of epigastric distress. The conjunctivae were pale, skin turgor poor, and there was no lymphadenopathy. Breasts were atrophic, pubic hair present. There was a generalized loss of muscle mass and strength without focal neurologic abnormality. The liver was felt 1 cm. below the costal margin, and one of three observers felt a spleen tip. The rest of the examination was unremarkable.

Laboratory studies: Hematocrit 23%, Hb 7.5 Gm%, white-cell count 10,500 with 82 segs and 18 lymphs. Urine showed 2+ protein, pH 6, SG 1007, and 5-7 wbcs/hpf. Serology negative. Stools brown-yellow, negative for occult blood and parasites. Reticulocytes 3.9%; Coombs test positive. Normal or negative studies included LE

preps, tuberculin test, skull and chest x-rays, a sedimentation rate of 13 mm. per hour, bilirubin of 1.1, and alkaline phosphatase of 3.2, sterile urine, and normal rectal biopsy. Abnormal studies included urea of 133 mg. percent, creatinine 2.1 mg. percent, uric acid 13.1 and 13.8 mg. percent, serum albumin 2.7 and globulin 3.2 gm. percent, calcium 6.9 and phosphate 4.0 and 1.2 mg. percent; serum Na 125, K 1.8, Cl 96 and CO_2 19 mEq/L initially. At about the same time urinary Na 3 and K 31 mEq/L at a twenty-four hour urinary volume of 350 ml. Serum PBI 4.2 gamma. 24-hour urinary excretion of 17 ketosteroids was 0.4 mg. (normal 5-15 mg.) and 17 ketogenic steroids 5.6 mg. (normal 5-18 mg.). Electrocardiogram showed nonspecific ST-T changes which returned towards normal with potassium repletion. X-rays of the upper and lower bowel were abnormal, and are shown (See Fig. 1).

Hospital Course: During the course of the above studies the patient was maintained on prednisone 15 mg. q.i.d., vitamins, and anti-emetic and antidiarrheal agents. She continued to have frequent light, watery stools, took small amounts of nourishment by mouth, and vomited occasionally. Vomitus contained flecks of dark blood. On the second day parenteral hydration with 90 mEq KCl, 1 liter of 5% dextrose in saline and 2 liters dextrose in water per day was begun. On the sixth day urine output had increased to 2,380 ml., but her condition was considered critical. Vomiting and diarrhea were unaffected. Salt-poor albumin was given. Serum K and other electrolytes returned towards normal, and urea fell to 76 mg. percent. The nurses noted some edema around a left ankle cut-down site. On the eleventh hospital day following a barium enema the patient developed breathlessness and a pulse of 160 per minute. Rales



Fig. 1. X-ray of the bowel with contrast medium show diffusely distributed thickening of mucosal folds, suggesting mucosal and submucosal edema.

appeared in the lungs, and blood pressure became unobtainable. Electrocardiogram showed a supra-ventricular tachycardia. Digitalization, morphine, a diuretic, hydrocortisone and packed cells were started. A gallop rhythm and fever to 101.6° were noted. Blood cultures were taken and penicillin was being added when respiratory arrest and ventricular standstill occurred six hours later.

Clinical Discussion

Dr. David Stone: My dismay over this complicated problem is slightly lessened by my relief at not having had to take care of this patient when she was here. There are a number of features worth examining, and my choice of points for emphasis must be somewhat arbitrary. Her disease was a protean one, in which the gastrointestinal tract was only one of several systems involved. This disease was probably present three years ago in less degree, underwent a remission, and returned in full force nine months before admission. At that time she was anemic, and the laboratory studies done then all point towards this being an autoimmune hemolytic anemia. Hence, discussion will center around diseases which affect the gastrointestinal tract and abdomen, and could be associated with this type of anemia. The negative lymph node biopsy helps eliminate a lymphoma, which could do this. The laparotomy further excludes major, localized intra-peritoneal disease, and I wonder if further details of this operation are available. Was this truly a purulent salpingitis and peritonitis?

Dr. Lockhart McGuire: We have a very good description from the referring hospital, which says: "The peritoneal cavity is entered, and approximately 3 liters of clear, straw-colored fluid is removed. The omentum seems somewhat displaced to the right lower quadrant. . . The cecum, half of the ascending colon, terminal ileum and appendix have a pale, slightly edematous, nonglistening appearance. . . There is no acute inflammatory reaction. . . Both fallopian tubes were definitely thickened." There was no pus. No tissue was removed.

Dr. Stone: Thank you, that is helpful. That is fairly striking ascites, and the rest of the description sounds more like a "serositis" than a purulent response to bacterial inflammation. The concept of this being a "serositis" will be important later on. Returning to the history, her abdominal pain, diarrhea and emaciation continued in the face of prednisone. Physical examination here does not contribute much. A very striking feature from the laboratory data is the renal insufficiency which can be blamed on the nephropathy of potassium depletion. The potassium depletion was undoubtedly due to prolonged diarrhea and vomiting. The hemolytic anemia is still present. May we see the x-rays?

Dr. William Craddock: Films of the abdomen have a "ground-glass" haziness due to free fluid. On the gastro-intestinal series, there was a very definite loss of peristalsis in the esophagus, immediately raising the possibility of scleroderma. The stomach shows thickened mucosal folds, but I do not believe these are varices.

Dr. Stone: Could these represent "giant rugal hypertrophy"?

Dr. Craddock: Yes, but there are changes generally throughout the bowel as well. The small bowel shows slow passage of barium, and a change in the mucosal pattern. The folds are exaggerated and heavy, suggesting that edema of the mucosa and submucosa may be present. There are no localized areas of permanent deformity. (See Fig. 1) Also in the colon the haustral pattern is irregular, again suggesting edema. In summary, this is not ileitis, but it does suggest a collagen disease or possibly a protein-losing enteropathy.

Dr. Stone: It is worth mentioning the possibility of a carcinoid tumor, because of the emaciation which can result from the diarrhea, the occasional malabsorption, and from interference with synthesis of tryp-

tophan. None of the features support that very well. Amyloidosis usually has some neural involvement and is not particularly associated with hemolysis. The Zollinger-Ellison syndrome from pancreatic adenoma is accompanied by diarrhea as well as vomiting, but this is unlikely in the absence of increased gastric hydrochloric acid. Recent reports[1] indicate, however, that there may be an association between pancreatic adenomas, hypo—or even achlorhydria, and diarrhea. The ulcer diathesis is not a prominent feature of these cases. Sixty percent of these adenomas are malignant. The negative exploration here leads me away from this diagnosis. Another disease requiring mention is Whipple's intestinal lipodystrophy. This is being recognized as a multisystem disease, but not including hemolytic anemia. The patient should have had lymphadenopathy, and the surgeon should have seen dilated intestinal lacteals. It may be due to an infectious agent, as suggested by electron microscopic studies. In addition, Dr. Caravati[2] in Richmond has shown the presence of lipid-filled macrophages in rectal biopsy, and this biopsy was normal here.

One group of diseases has been left out so far. This is non-tropical sprue or adult celiac disease. The rapid progression in this case and prominent element of vomiting are not characteristic of sprue. Also, the description of the stool is more one of watery diarrhea, than the bulky, frothy, foul-smelling stools of steatorrhea. There is undoubtedly malabsorption of protein, electrolytes and fat here, but, historically, steatorrhea is not conspicuous.

The one group of diseases which could fit the problem here is the collagen group, with vasculitis involving connective tissue generally. Acquired auto-immune hemolytic anemia is perhaps most often associated with systemic lupus erythematosis. It is also accompanied frequently by a sterile polyserositis, including peritonitis such as occurred in this patient. We usually expect more joint or skin involvement, but these do not have to be present. Lack of renal involvement or hypertension are against periarteritis. Scleroderma affects the gastro-intestinal tract, in addition to the change in esophageal motility, by producing a more typical malabsorption syndrome, such as we mentioned with sprue. The hemolytic problem especially draws us back to lupus, which I believe this patient had. Involvement of the bowel wall and serosa by the vasculitis of lupus[3] could well have produced the vomiting, diarrhea, findings at laparotomy, and progressive emaciation which were observed. Dysphagia and mild esophageal and duodenal atony are reported not infrequently.

Dr. Kenneth Crispell: I would only add that you may have dismissed the Zollinger-Ellison syndrome too readily. Remember that the volume and acid content of the emesis were not measured. As most of you know, the relationship of the gastric hypersecretion to pancreatic adenoma has been complicated by the realization that this is often a situation of multiple endocrine adenomas, or poly-glandular hyperplasia. The basic process is obscure, but the association of ulcer and parathyroid tumor probably falls into this problem somewhere.

Dr. Ashley Futral: There are two features of this patient's illness which are not brought out very well in the CPC protocol. One is her personality. She was a strange and apathetic person, and was considered by one of her referring physicians to have anorexia nervosa. This was a very reasonable possibility to those of us who saw her. The other is that her stools were yellow and did contain increased fat on microscopic examination. They did not have the typical appearance for malabsorption which Dr. Stone has noted, but the patient was eating practically nothing. We felt that they were consistent with a malabsorption state. We wondered whether starvation alone could produce the x-ray changes seen in the small bowel.

Dr. Crispell: Anorexia nervosa certainly can be difficult to establish because of the

secondary effects of starvation on various functions. I believe there have been two patients with what turned out to be anorexia nervosa here in whom surgical exploration was resorted to before a final diagnosis was established.

Dr. Craddock: You certainly can see some loss of normal mucosal pattern of the intestine on a nutritional basis. Frankly, I haven't done any small bowel studies on patients with simple, severe starvation, but I would not expect the changes to be as marked in degree as those seen here.

Dr. Stone: The point about vomiting leading to a failure of the appearance of typical stools of steatorrhea in otherwise appropriate circumstances may be important. Real malabsorption would be more suggestive of scleroderma, but I will stick with lupus.

Pathological Discussion

Dr. David Smith: As might be expected, this enigmatic case is almost as hard to analyze after the morphologic findings are available as it was clinically. There was extreme wasting of all the adipose tissue. The abdomen contained 1,000 ml. of clear fluid and there was 400 ml. of similar fluid in each thoracic cavity. The entire small intestine (Fig. 2) and large intestine has most remarkable, rubbery, thickened walls with slight thickness and opaqueness of the serosa. The mucosal surfaces were obviously edematous but there were no ulcerative or hemorrhagic lesions. The esophagus was thickened in its lower portion except immediately above the cardia, where it was thin, ragged and hemorrhagic in the appearance of a severe esophagomalacia.

Microscopically, the gastrointestinal tract

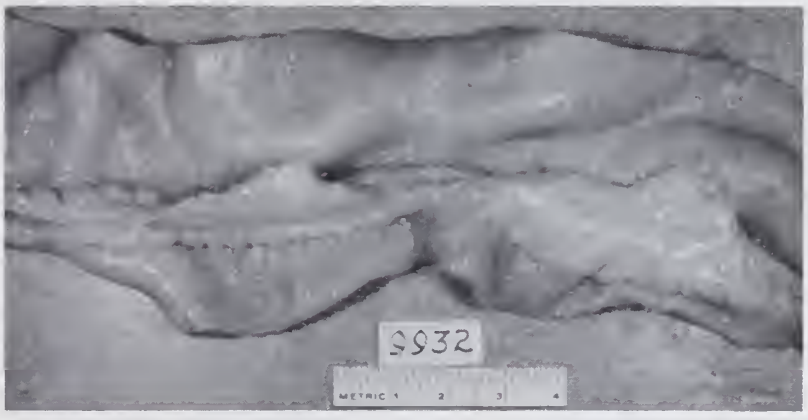


Fig. 2. A segment of ileum with rubbery thickening of the muscularis and grey opaqueness of the serosa; gross changes due to the interstitial scarring of progressive systemic sclerosis.

What were the student diagnoses?

Dr. Burton Benjamin: The students listed lymphoma with hemolytic anemia, a mixed type of collagen disease, and regional enteritis with secondary amyloidosis in that order of frequency.

Dr. David Stone's Diagnosis

1. "Collagen" disease with vasculitis of the bowel and hemolytic anemia, due to systemic lupus erythematosis.

2. Hypokalemic nephropathy.

showed edema of the submucosa, but in addition there was an increase in bluish precipitate indicative of increased ground substance and a fine fibrosis that infiltrated the muscularis often almost separating individual muscle fibers (Fig. 3). In a number of places, although the total instances were not numerous, there were cellular infiltrates about blood vessels. They were composed principally of lymphocytes and plasma cells that sometimes invaded the muscularis of the vessel itself. Similar lesions were found about blood vessels in the uterus

and the kidney, but there were no instances where there was actual necrosis of vascular walls. The kidneys were enlarged and pale. In addition to perivascular infiltrates and

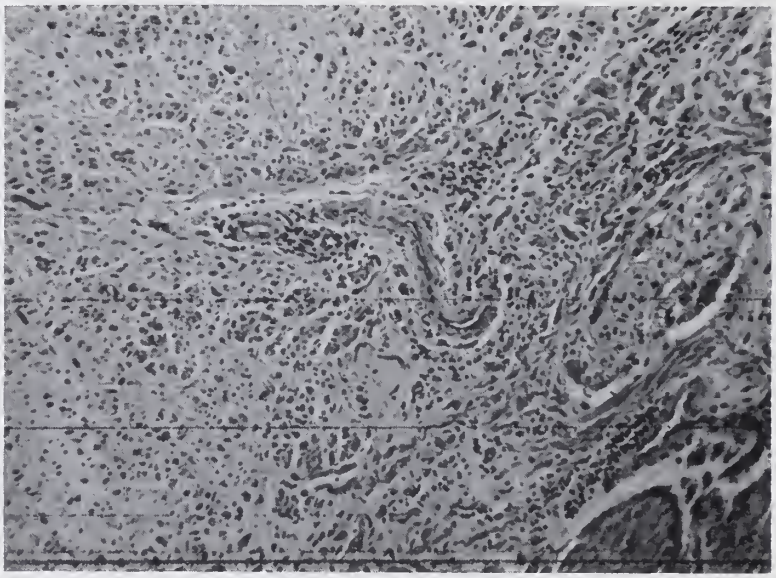


Fig. 3. Muscularis of the ileum, in which a fine increase of fibrous tissue separates atropic muscle fibers, and a light infiltrate of lymphocytes is present about a thickened small artery. (H. and E. stain, aprox. 250 X).

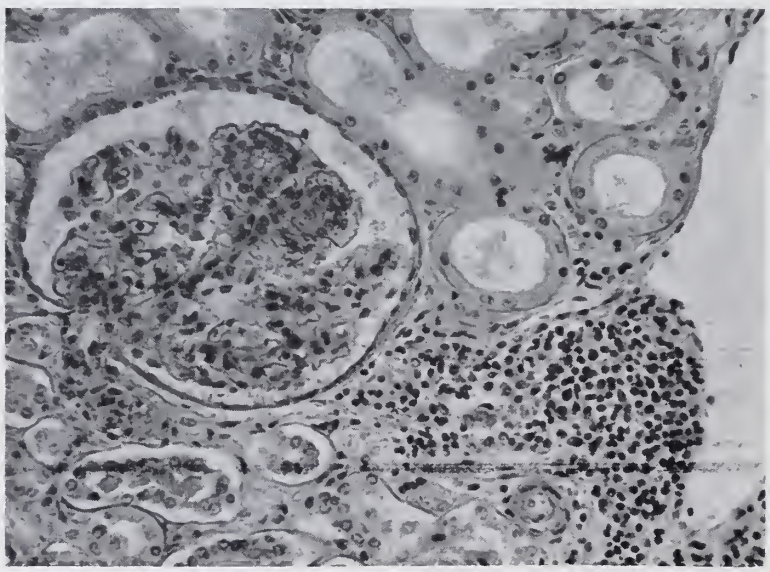


Fig. 4. Thickening of glomerular capillary basement membranes, interstitial perivenule infiltrate of lymphocytes and endothelial swelling of an arteriole in the kidney. This is not the advanced cortical necrosis of "scleroderma kidney" but seems to represent an earlier, possibly antecedent, and more chronic lesion. (H. and E. stain, approx. 250 X).

slight interstitial infiltration of cells in various sites, there was a distinct thickening of arterioles and of the walls of the glomerular capillaries that seemed to be principally due to thickening of the basement membranes (Fig. 4) No hematoxylin bodies or necrosis within the glomeruli were found. The tubular epithelium in many places showed hyalin droplets which can be correlated with the proteinuria, but there was no rarefaction or hydropic degeneration of the cytoplasm, which can be the morphologic hallmark of hypokalemic nephropathy.

The skin manifested no abnormalities in

either gross or microscopic appearance. Nevertheless, the interstitial fibrosis of the gastrointestinal tract, accompanied by vasculitis of small vessels, leads us to the diagnosis of progressive systemic sclerosis. The purity of this diagnosis might be slightly compromised by the thickened capillaries in the renal glomeruli. Nevertheless, there are no hematoxylin bodies or necrosis in the glomeruli, nor lesions in the spleen or lymph nodes to support a diagnosis of lupus erythematosis. No larger vessels are involved with necrotizing lesions typical of periarteritis nodosa. This mixture of features that may be considered more characteristic of one of the so-called "collagen diseases" with those of another is a common experience, both pathologically and clinically. The dominance of the interstitial fibrotic changes in the gastrointestinal tract would appear to justify our interpretation of the renal changes as being a part of the syndrome of progressive systemic sclerosis, although reminiscent of lupus erythematosis. It is to be remembered that several attempts to demonstrate L.E. cells during the patient's life were negative.

The coexistence of hemolytic anemia with lupus rather than scleroderma has been emphasized by Dr. Stone. Nevertheless, we have been interested to find a reference to at least one previously reported case of scleroderma with similar features.[4] It may be purely coincidence, or it may be another example of the difficulty in distinguishing absolutely between some of the various "collagen diseases".

The remainder of the pathologic changes in this autopsy consisted of a quite unusual appearance in the liver that was due to considerable atrophy combined with fat in the periportal areas. The latter can be induced by a protein deficiency, and combined with the atrophy seems to have been a result of the starvation and emaciation in this patient.

We have rather ignored an interpretation of the termination of this case in our clinical discussion. The lungs had a slight, nodular, hemorrhagic infiltrate of bronchopneumonia in the lower lobes, and there were thrombi in the pulmonary artery to the lower lobe of the right lung and bridging the bifurcation of the pulmonary artery to the left lung (Fig. 5) The pneumonia might be dismissed as incidental; however, the combination with these embolic thrombi is undoubtedly responsible for the immediate expiration of the patient. There were no other important lesions to be related to her course, except for the presence of



Fig. 5. The left lung in which an embolic thrombus lies across the bifurcation of the pulmonary artery. This and other emboli combined with bronchopneumonia and emaciation were important causes of the death of the patient.

hemosiderin in the liver and spleen that we could correlate with the history of anemia.

This is, therefore, in our interpretation, a case of progressive systemic sclerosis, or scleroderma, in which the gastrointestinal tract bore the major brunt of the pathologic changes and the kidneys were affected to a lesser degree. The failure of involvement

of the skin is an important reason why the term progressive systemic sclerosis is preferable to the older term of scleroderma. The gastrointestinal involvement undoubtedly led to greatly decreased intake and absorption of food, starvation, and the emaciated state of the patient. There are certain features, particuarly in the kidneys, which remind us of systemic lupus erythematosis, although we are disinclined to include that as a primary diagnosis. The course has been complicated by hemolytic anemia for reasons we do not presently understand, and the final event was pulmonary vascular failure due to embolic thrombi and bronchopneumonia.

Anatomical Diagnosis

1. *Progressive systemic sclerosis, involving especially the esophagus, small and large intestines, uterus and kidneys.*
2. *Hemosiderosis of the liver and spleen (history of hemolytic anemia).*
3. *Emaciation, ascites, hydrothorax, and atrophy of the liver with fatty metamorphosis in portal areas.*
4. *Bronchopneumonia.*
5. *Embolic thrombi in pulmonary arteries.*

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During the past couple of years, due to various government activities in the drug industry, our advertising has dropped off considerably but we hope has hit the bottom and is now on the upgrade. We can't say too much for the many advertisers who have continued to support the journal during this crisis and they will always be "tops" in our estimate. Some of our old advertisers and some new ones are gradually coming back in our pages.

Have you looked at the advertising pages recently? This should be part of your continuing education—how else can you keep abreast of new drugs, equipment, hospitals, etc. And, of course, we think you should patronize those who support us!

Current Currents

FISCAL INTERMEDIARY FOR MEDICARE: The Medical Society of Virginia has recommended to the Department of Health, Education and Welfare that a commercial carrier be appointed as fiscal intermediary in Virginia for Part "B" of Medicare. The law defines a carrier as a voluntary association, corporation, partnership, or other non-governmental organization lawfully engaged in providing, paying for, or reimbursing the cost of, health services under group insurance policies or contracts, or similar group arrangements, in consideration of premiums or other periodic charges payable to the carrier.

Under Part "B" of Medicare, the Social Security Administration will have primary program and administrative responsibility. The law requires the government, to the extent possible, to enter into contracts with carriers to serve as administrative agents. The carriers will perform specified administrative functions or, to the extent provided in the contracts, secure the performance of these functions by other organizations.

Responsibility for determining reasonable charges for physicians' services will therefore be in the hands of private insurers, group health plans, and other voluntary medical insurance plans which have experience in reimbursing physicians.

PREVENTICARE: Suggestions are already being heard in Washington as to how Medicare can be "improved"—something not entirely unexpected. One of the first is attributed to Senator Harrison A. Williams (D., N. J.). He calls it "Preventicare".

The Senator proposes a voluntary program under which persons over 65 would be warned of coming chronic diseases in time to ease or overt them. Eventually, he visualizes a nationwide network of health screening centers!

SELECTIVE SERVICE REJECTEES: Health referral and counseling programs for Armed Forces medical rejectees are now being conducted in 37 states, according to a U. S. Public Health Service report. Twelve other states, the District of Columbia, and Puerto Rico are preparing to initiate programs and are expected to be providing referral and counseling services in the near future.

Using funds provided through contracts with the Public Health Service, designated state agencies screen and evaluate Armed Forces Examination Station medical records of men rejected from military service for medical reasons, counsel these young men concerning their health needs, and refer them to health and rehabilitation resources in their own communities for appropriate services.

To date, approximately 70% of the men have been referred to private physicians. Other care sources are state vocational rehabilitation programs, crippled children services, and outpatient hospital clinics.

CIVIL DEFENSE: Many have been wondering about the present state of our national civil defense preparedness. Virgil Couch, Assistant Director of Civil Defense, from the OCD, has advised that:

A. Over five million buildings have been examined and potential shelter space for more than 138 million people has been found. Additional shelter spaces are being discovered through survey of smaller buildings, and created by improved ventilation, protective construction, and design changes in new structures;

B. Over 1,000 warning points can be alerted in seconds, and 536 radio stations have agreed to provide shelter protection to enable continuous service. The program has already been completed by 236 stations;

C. Over 56,000 radiological stations have been established and monitoring equipment for 200,000 shelters has been procured;

D. Over 13,000 CD workers have been trained at OCD staff colleges, over 9,000 have been trained in the field of radiological monitoring, and over 9,000 professional architects and engineers have completed courses in analyzing existing buildings to locate shelters and design techniques.

MEDICARE AND LABOR: The Insurance Economics Society of America reports that Medicare has now found its way to the labor-management bargaining table.

According to the report, "unions that lobbied long and hard for the Federal law providing hospital and medical benefits for those aged 65 or over under Social Security now are pressing employers to supplement this coverage with company-paid benefits. Some sample demands: that companies pick up the $3 monthly premium that aged workers, the retired and their wives must pay to come under Medicare's Plan "B", which covers doctor bills and outpatient services; and that companies permitting workers to retire on pension before 65 pay for medicare-type benefits until the worker turns 65 and comes under the Federal program.

"Negotiations on such demands already have started, or soon will, in the auto, farm tool, aluminum, can, communications and glass container industries, to name a few. The list surely will broaden, too. Unions argue that Federal Medicare, which goes into effect next July, will relieve companies of many medical expenses they now pay for aged workers and the retired, so that the money can be used to provide additional benefits. . . ."

DID YOU KNOW? More than 350 million persons throughout the world, including 100 million in the United States, have taken the Sabin oral polio vaccine.

The total employment in the 7,127 registered hospitals in this country was 1,886,839 in 1964, which makes them one of the nation's largest employers.

Correspondence . . . .

"Looking Over the Doctor's Shoulder"

TO THE EDITOR:

I am writing about an article that appeared in "Parade Magazine" on November 7, 1965, entitled, *Looking Over the Doctor's Shoulder* by Lawrence Galton. It also had a subheading entitled, *A Powerful New Voice in Medicine*. This article states that it would be excellent for all American hospitals to have a computer. Audits are now being carried out in Ann Arbor, Michigan, for four hundred hospitals of the area. Computer cards are punched at the time the patient is discharged from the hospital and sent to the center. When the report comes back it will tell whether the patient has been treated properly or not. Since this program is further sponsored by Dr. Harless S. Ingraham, New York Commissioner of Health, J. W. Coleman, President of New York Blue Cross, Dr. Martin Cherksky, of the Montefiore Hospital in New York, it evidently is not a new thought or concept. Sir William Osler said, "The art is long, the science is short." This certainly still applies to today's medicine. Assuredly, American medicine is being beset politically and economically by many "do gooders."

There are a number of rebuttals that I would like to make to this situation as well as give a positive plan for action.

1. No physician in American medicine today would attempt to treat or diagnose a patient at a distance. It is not logical for a computer machine to attempt to do the same.
2. The often used phrase, "Change is not progress," can certainly apply here. It would be foolhearty to attempt to explain the objective and subjective symptoms of the patient to a computer and expect to get good results.
3. Hindsight diagnosis has no validity in medicine today. Anyone or a machine looking through a retrospect-scope would have no difficulty in evaluating the situation, just as the pathologist has no difficulty in determining the cause of death at an autopsy.
4. Few clinicians would ask a pathologist to aid in a diagnosis other than through the materials which are sent to the laboratory.

The computer idea would be good if it could be utilized for possible diagnosis and suggested test and treatment at the time of admission of the patient. If there is a real desire to help the patient by the men who have conceived this idea, let it be of constructive nature to the patient at the time of need, not when there is no further need for the patient.

I am firmly convinced that the majority of American doctors are in their profession to help the patient at the time of need. I think if more efforts in academic circles were placed in that direction, the patient would benefit more.

This idea as started in the articles in "Parade" and the denunciation of one's colleagues through it is trying to treat doctors and not patients. We are in this instance like the man who fell out of the ten story window and people on each floor heard him say "So far so good." Let us be constructive for the patient's sake. Let us help our fellow physicians do a better job at the time it is needed. To go about grading our fellow physicians does not give incentive. Let us lift ourselves up. Let us help each other to help our fellow man. This is what we are dedicated to. This is our need to answer the needs of our fellow man.

L. PERRY HYDE, M.D.

November 9, 1965

506 North Jefferson Avenue
Pulaski, Virginia

Phenylketonuria
(Phenylpyruvic Oligophrenia)

Phenylketonuria is an hereditary error of metabolism characterized by mental retardation and the presence of phenylalanine metabolites (such as phenylpyruvic acid, phenylacetic acid, phenyllactic acid and marked elevation of phenylacetylglutamine) in the urine. Their presence comes about as a result of the deficiency of enzyme I in the phenylalanine hydroxylase system; that is, the absence of one of the two enzymes which catalyze the oxidation of phenylalanine to tyrosine.

The condition was first described in the early 1930's by a Norwegian physician and biochemist. He studied two mentally retarded siblings who were brought to him because of a peculiar odor. He found that their urine reacted with ferric chloride, giving an unusual green color. This color was later shown to be caused by the presence of phenylpyruvic acid and the peculiar odor to be caused by phenylacetic acid.

Phenylketonuria is transmitted by a single autosomal recessive gene. Heterozygous carriers for phenylketonuria do occur. Their biochemical changes can be detected and, thus, they can be differentiated from the population as a whole. The incidence of phenylketonuria in the United States is approximately four per 100,000, or one in each 25,000 births. No pure Negro cases have been reported, and it is very rare among Jews.

The clinical picture of mental deficiency becomes evident when the child is between four and six months old. However, careful history and physical examination will frequently suggest the diagnosis of phenylketonuria before the onset of these mental signs. Patients may exhibit persistent vomiting during the first week of life (some have been misdiagnosed as having pyloric stenosis); some others show unusual irritability. Epileptic seizures and eczematous conditions have been reported. Phenylketonuria is accompanied by retardation of growth as well as mental development. These children are noted for their unusually attractive features in early childhood and are frequently described as having lighter colored skin, hair and eyes than other members of the family. The skin hypopigmentation is due to a disturbance of tyrosine metabolism by the increased phenylalanine, with a resulting decrease in melanin production. The decreased pigmentation is particularly striking among Japanese phenylketonurics, who have brown hair instead of the usual black. Due to the same abnormality of tyrosine metabolism, these patients have decreased plasma adrenalin levels.

Neurological examination has shown that about half of the phenylketonurics exhibit mild to marked microcephaly. Hand posturing is very characteristic showing purposeless movements including rhythmic pill-rolling, irregular tic-like motions and frequent "fiddling" of the fingers held close before the eyes. These movements are accompanied by a rhythmic rocking back and forth, which may continue for hours. Frequently, the babies show tremor of the hands and hyperflexia.

The overwhelming majority of untreated phenylketonurics have an I.Q. of 50. Most of these fall in the range of 25. The degree of mental defect does not appear to be correlated with either the phenylalanine level in serum or the amount of phenylpyruvic acid excreted in the urine. Many hypotheses have been advanced to explain the etiology of the mental defect, but no one is satisfactory as yet. Nevertheless, it is well-known that the earlier the case is diagnosed and the earlier the low phenylalanine diet is instituted, the less the neurological damage and the better the prognosis. Unfortunately, many of the cases brought to medical attention in the past are cases of children who have had the metabolic disorder for a considerable period of time. In

these the mental retardation is well established and improvement is poor.

Progress in the area of biochemical methodology has brought about a better understanding of the normal pathway for the *in vivo* catabolism of phenylalanine and tyrosine. By the use of these newer techniques it has been found that the amino acid, phenylalanine, is converted to tyrosine in the presence of the "phenylalanine hydroxylase" enzyme system. The absence of the specific enzyme results in the clinical picture of phenylketonuria. The tyrosine, in turn, is converted to p-hydroxyphenylpyruvic acid by the enzyme, "tyrosine-transaminase". The conversion of p-hydroxyphenylpyruvate to homogentisic acid is brought about by the action of the enzyme "p-hydroxyphenylpyruvic oxidase". A deficiency of this enzyme is associated with the clinical condition known as tyrosinosis.

Homogentisic acid subsequently is converted to meleylacetoacetate in the presence of "homogentisic oxidase". Alcaptonuria results from a defect in this transformation.

Maleylacetoacetate is further converted to acetoacetate and fumarate—the end products of normal phenylalanine catabolism. Tyrosine also is metabolized along alternative pathways. Thus it may be converted to 3, 4 dihydroxphenylalanine (DOPA) and eventually to melanin by the action of the enzyme "tyrosinase". The absence of "tyrosinase" is responsible for the hereditary defect, total albinism, and is probably responsible for partial albinism.

The diagnosis of phenylketonuria is suggested by the presence of phenylpyruvic acid and other by-products in the urine and is confirmed by increased serum l-phenylalanine levels.

Urinary phenylpyruvic acid can be detected using a number of different methods of which the most widely used are the test tube, the diaper and the Phenistix® tests. In the first, 5 drops of 10% $FeCl_3$ solution (pH 1.8) are added to 1 ml. of urine. An immediate green color constitutes a positive test. In the diaper test, a drop of 10% $FeCl_3$ is placed on a baby's wet diaper and a blue-green to gray-green color appears immediately if the test is positive. For mass screening purposes, the Phenistix® procedure is simpler to perform and as reliable as the first two methods. It consists of a commercially prepared paper strip which is impregnated with a buffered ferric salt. This strip is dipped into the urine and turns green in the presence of phenylpyruvic acid. Quantification of serum phenylalanine is possible and the interested reader is referred to standard analytical texts. Although the actual values obtained by the various methods vary somewhat, the serum phenylalanine in normal individuals is less than 1.5 mgm.% and the range in untreated phenylketonurics is between 20 to 35 mgms.% i.e., a 15- to 20-fold increase over normal values.

All therapeutic measures are directed towards reduction of plasma phenylalanine levels to the normal range by means of a special diet. It consists of: 1. low phenylalanine protein hydrolysate (Mead Johnson and Merck), 2. 1% protein fruits and vegetables, 3. gluten-free bread, 4. sugar, 5. butter or Lipomul® and 6. vitamins and minerals.

Summary

Phenylketonuria is an interesting genetically determined biochemical disorder which produces mental deficiency. While it is relatively rare, it is easily detected and the urine of all newborn infants should be tested for its presence. Currently, no specific therapy is available but dietary control offers some promise to an otherwise hopeless condition.

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Public Health . . . .

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The Computer and Public Health

The primary concern of public health is the health of the community, and the public health team must be able to evaluate the numerous aspects of community life which affect the community's health.

In the Commonwealth of Virginia each year millions of public health records and reports are made which, when combined and reviewed as a community record, reveal much regarding the health status of the community. Provided the proper approach is made in analysis, it is very probable that the correct diagnosis of the ills of the community can be made and appropriate treatment recommended. As in clinical medicine, an early diagnosis of public health ills is preferred as it usually means that a lesser amount of treatment will be needed and, consequently, fewer tax dollars will be spent to care for the community "patient".

The rapid changes and progress in public health, like that in clinical medicine, make imperative the development of techniques and tools which can monitor and evaluate the changes taking place in disease patterns and the overall environment. Until recently it has not been possible to review or analyze many major community studies in public health for months and even years after the data have been gathered. In such instances a report loses its effectiveness as a basis for decisions which could result in proper action.

In public health where the time element is often crucial and where a large volume of data must be reviewed and analyzed before sound decision making can occur, an electronic computer approach to data processing is the most logical step to take. The Virginia State Department of Health took this step in July, 1965.

The Health Department was moved toward a computer-orientated operation by the desire to provide the people of Virginia the very best public health service. In addition, the Department is very much concerned with three important factors which are usually fostered by the spirit of competition in business and industry: (a) cost reduction; (b) increase in efficiency; and, (c) improvement of the "product".

As in any endeavor which involves a high volume of diversified record-keeping and data-gathering activities, the conversion to computer data processing is extensive, requiring a tremendous amount of planning with each of the public health disciplines.

The first major data processing program to be converted to the computer was a detailed application involving statewide time study data which was collected during the twelve months ending in June of this year. This study data will enable us to better evaluate our health programs since cost analysis is now feasible. Priority schedules for specific programs can now be administered in keeping with decisions based on reliable facts. More important, in the future, the time study data can be processed and analyzed in a much more timely fashion than in the past.

In the field of public health, about twenty-five percent of all personnel time is spent on the collection and handling of records and reports and other general clerical activities. In view of this volume of records activity and amount of personnel time required, a high speed computer for processing data should help to relieve professional personnel from many extra hours now spent in clerical activities.

Let's see exactly what computers can do. First, they can process data. They balance

accounts, figure payrolls, check certificate returns, update records, keep track of supplies, and send out informational reports.

Second, computers can solve mathematical problems. Computers make it possible for statisticians to move ahead quickly to the solution of research, testing, or design problems. For scientists, engineers, and others, computers eliminate the drudgery of routine problem solving.

Third, they control operation. Computers have begun to take over complete on-line control of certain kinds of industries, and, through direct connection to the instruments and controls of the process, the computers check measurements and automatically change the controls to keep the plant running at the highest possible efficiency. Why not the same for issuing certified copies, laboratory programs, and the like in the public health field?

Fourth, computers can simulate. It is possible to set up mathematical formulas, or math models, for testing purposes. This is particularly valuable in the field of sampling.

Fifth, computers store and retrieve knowledge. All the valuable information from all health programs is now available. Summaries of printed information about sanitation, heart disease, or public health law, for instance, can be compiled, sorted, and stored in the computer and reprinted on a moment's notice. This is being done for physicians, lawyers, and engineers on an increasing scale.

There are many other public health applications for which computers are suited. For example, from remote stations at tuberculosis or mental health institutions, hospital statistics and fiscal data could daily be transmitted to a central computer operation which would process it and produce up-to-the-minute reports.

Continued review and close observation of deaths in regard to the underlying cause and any possible associations such as place of residence, work history, and familial mortality pattern for certain disease conditions can be expedited. Mortality data in the records of the Chief Medical Examiner's Office will soon be correlated with other data, such as alcohol studies and socio-economic characteristics of the population. Using the computer, it will be feasible to analyze mortality data in regard to multiple causes of death. Statistics on the underlying cause of death do not provide all that is needed on mortality patterns and trends since a death often results from the combined effect of two or more causes. These causes may be completely unrelated, arising independently of each other, or they may be causally related to each other; that is, one cause may lead to another which, in turn, leads to a third cause, et cetera. Throughout the country more and more thought is being given to this approach to the analysis of mortality data.

The computer can be programmed to immediately identify errors in health data. Maternal conditions in males, suicides among infant deaths, transposed figures showing a mother to be, say, 72 years at the time of birth (rather than the true 27), and other checks on quality can now be controlled.

In the near future, all case registries, such as crippled children, tuberculosis, venereal disease, and other reportable conditions, will be maintained in the electronic files of the computer. At any given point in time the computer may be queried for specific data about a particular name in the registry, or an up-to-date statistical report can be prepared. Statistics on communicable diseases, laboratories, sanitary engineering, and other such public health programs will soon be converted to operations. Even the routine "housekeeping" activities of the Health Department, such as personnel accounting, property control, fiscal accounts, budgeting, and other like matters, will be maintained and processed electronically. Special studies are already under way in the fields of dental health, epidemiology, and migratory workers. The versatility of the computer par-

ticularly lends itself to all research applications.

Section 32-353.5, Code of Virginia, requires that the Bureau of Vital Records and Health Statistics of the State Department of Health provide central public health analysis and tabulating services for the State, county, and city departments of health. The newly installed computer is a giant step toward meeting that requirement and will result in better health knowledge, which will in turn result in better health programs for the people of Virginia.

Monthly Report of Bureau of Communicable Disease Control

	Dec. 1965	Dec. 1964	Jan.-Dec. 1965	Jan.-Dec. 1964
Brucellosis	1	3	10	21
Diphtheria	0	0	0	0
Hepatitis	57	44	819	550
Measles	40	222	4502	13568
Meningococcal Infections	8	6	75	63
Meningitis (Aseptic)	0	3	18	24
Poliomyelitis	0	0	0	4
Rabies (In Animals)	29	32	340	335
Rocky Mt. Spotted Fever	1	1	43	35
Streptococcal Infections	1011	930	11068	10711
Tularemia	1	1	9	8
Typhoid Fever	0	0	9	11

Who Doesn't Follow the Doctor's Orders?

Nearly one-third of all patients apparently fail to follow the orders of their physicians—and, a new study indicates, many physicians fail to realize this. Results of the study by Milton S. Davis, Ph.D., associate professor of sociology in medicine, Cornell University Medical College, are reported in the Medical News section of the November 1st Journal of the American Medical Association.

The type of patient least likely to comply: "An older person; more likely a woman than a man; from a lower socio-economic level, and probably with a lower level of education."

What does the physician do when he learns that the patient isn't following his advice? Generally, he first tries further explanation of the need. Then he tries persuasion. If that doesn't work, the senior physician is more likely to withdraw from the case, an option not always available to younger men working in clinics or on hospital staffs.

Dr. Davis based his report on an analysis on 27 previous studies of patient non-compliance, plus a survey of 132 senior physicians on the faculty of a teaching hospital and 86 junior physicians or senior medical students working in the hospital's outpatient service.

The orders most frequently ignored are those which require the patient to change his personal habits or behavior—stop smoking, lose weight, get more sleep.

Frequent non-compliance is reported when the physician advises eye and ear examinations, and delays are frequent when surgery is suggested.

Dr. Davis said he has tenatively concluded that an age factor may play a part in non-compliance. Those between ages 46 and 65 seem less likely to comply.

Previous studies indicate that from 15 to 82 per cent of patients fail to follow directions offered by their physicians. The degree of non-compliance varies with numerous factors, but averages about 35 per cent in all studies.

Yet, 42 per cent of the physicians questioned estimated that "almost all" of their patients followed their advice. Another 47 per cent estimated that three-fourths of their patients do as they are told.

Junior physicians were more accurate than their teachers in estimating the degree to which patients fail to comply. Dr. Davis suggested that this may be due to less certainty among the younger men as to the effectiveness of their advice and to the fact that they may be closer to their patients in the socio-economic scale.

Mental Health . . . .

D. W. HEYDER, M.D.
GALEN M. HILL, MSSW

Patients: Class and Race

A Study of Economic and Racial Factors in Patient-Population Ratios

A statistical study was conducted to obtain knowledge of the geographical distribution of the patient population of The Mental Health Center of Norfolk and Chesapeake. Considerable area deviations in the patient-population-ratio were found. Such deviations were correlated to socio-economic and racial status. Because of the uneven urban-rural characteristics of Chesapeake, the study at this point was limited to the City of Norfolk.

The past 1,000 cases were examined, and the residences marked in the 80 census tracts shown by the official map of Norfolk. Correlating numbers of cases per census area with their population permitted the breakdown into areas of average patient load which we called AVERAGE AREAS, areas of high patient load which we called PROBLEM AREAS, and areas of low patient load which we called UNSERVED AREAS.

A search of the census records of 1960 provided the breakdown of family income per census tract. Also, the racially dominant characteristics of each census tract could be obtained.

The results of the study revealed that 60% of the Center's cases come from 47 of the 80 census tracts, representing 53% of Norfolk's population, showing roughly a 1-to-1 patient-population ratio in the AVERAGE AREAS.

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GALEN M. HILL, MSSW, *Psychiatric Social Worker, The Mental Health Center of Norfolk and Chesapeake.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

Thirteen census tracts provide the Clinic with 32% of the caseload, representing 16% of the City's population, a 2-to-1 ratio in the PROBLEM AREAS. Nineteen census tracts provide 8% of the patient population, representing 17% of Norfolk's population, a 1-to-2 relationship in the UNSERVED AREAS.

Of further interest is one area with 14% of the population providing the Clinic with only 1% of the patient load, namely the military area with psychiatric services for the service personnel provided by the Navy.

The census records reveal that the average family income for Norfolk is $4,894. The following Table shows the distribution of the Clinic population areas related to the socio-economic groups.

		Clinic Population		
Family Income	Number of Census Tracts	Problem Areas	Average Areas	Unserved Areas
High $7500 & up	12	0	5	7
Middle $3200 to $7500	53	12	31	10
Low $3200 & down	14	1	11	2

The review of the Table demonstrates certain characteristics of the Clinic's population. The PROBLEM AREAS are almost exclusively from the middle socio-economic group.

In the AVERAGE AREAS 36 out of the 47 areas have average or above family incomes. Only 11 of the areas were in the lower socio-economic group.

In the UNSERVED AREAS 7 out of 19 areas are in the upper socio-economic group.

The Negro community comprising 25% of the Norfolk population provides only 17% of the Clinic population. Seventeen of the 80 areas are predominantly Negro. Out of these 17, 8 were in the AVERAGE

Area, 8 in the Unserved Area, and 1 in the Problem Area.

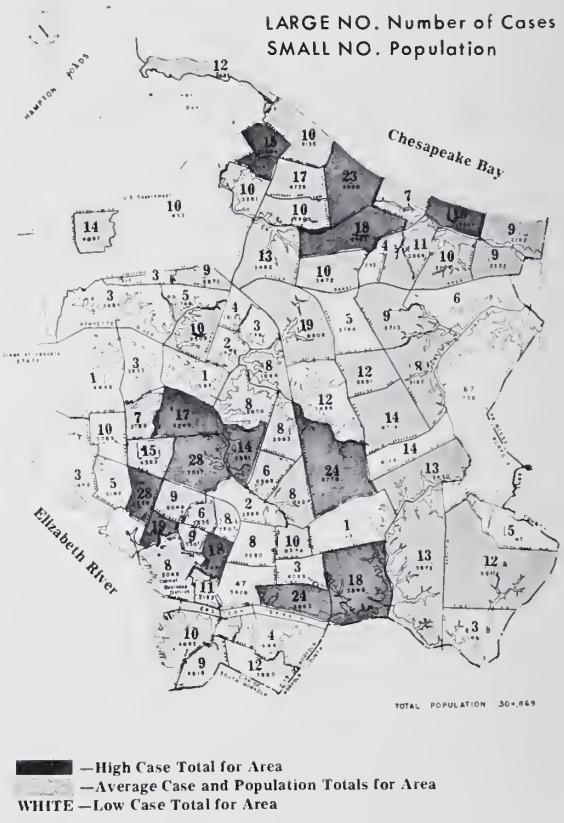
Thus, it can be said that The Mental Health Center of Norfolk and Chesapeake apparently serves predominantly the middle socio-economic group. Areas of low patient ratio are found either in the high income groups or in many areas predominantly Negro. The above income groups, of course, are served by privately practicing psychiatrists.

It is assumed that the poorly served areas on the opposite end of the socio-economic spectrum are inhabited by people who are poverty stricken, poorly educated, lethargic due to oppression and ghetto living, and that these people suffer of an insufficient recognition of emotional problems and lack of motivation. Also, the Clinic and its public relations and education efforts, probably are not sufficiently aimed at the dissemination of information in these areas.

The literature concerned with the mental health approaches to the poor points out the need for therapeutic procedures which by necessity have to be rather different from the approach to the better educated and more verbal middle-class.

Thus, a great deal of discussion is taking place concerning new methods for reaching the lower socio-economic groups. Yet, whereas this pioneering enthusiasm to help the poor is applicable in mental health, a note of caution should be sounded. The knowledge that was gained should not be underestimated, granted that a great deal of this information and theory has been derived from middle and upper class groups. If the theories derived from the observation of these groups are correct, it can be assumed that they are also applicable to the lower socio-economic groups. It might be suggested that the failure to be of service to this group is not necessarily because of inadequate theories, but a failure of communication. The mental health field must learn a lesson from the public health field. The public health specialists have taken the knowledge obtained from the hospitals, the laboratories, and the private practitioners regarding communicative diseases and have given this information to the poor in a way they can understand and use it. The mental health field must take the knowledge and skills learned in the clinics serving middle class people, and make it available to the poor that they, too, can benefit from the control and prevention of mental illness.

Nevertheless, changes and adjustments are necessary; waiting lists must be abandoned in favor of immediate service. The rituals of intake must yield to an immediate, direct therapeutic approach. This not only calls upon the mental health worker to be



a therapist, but also to be a manipulator who has at his fingertips the possibilities of expediting the solution of environmental problems. Jobs, housing, welfare, schools, hospitals, have to be made to cooperate in relieving realistic and external stresses. The worker has to be less formal and aware of the difference in social values, attitudes,

even the differences in the connotation of meaningful words. Short-term therapy, group therapy, visits to the homes and endeavors to show the poor a better life they can strive for will round out the picture.

To put such a program into action, more personnel is needed—personnel who not necessarily need a Master's Degree, but can be unskilled men and women as long as they are well motivated, free of significant psychopathology themselves, and supervised by experts.

The Mental Health Center of Norfolk and Chesapeake has initiated a project, utilizing VISTA Volunteers for this job. The VISTA mental health case aides live in the slums, have direct contact with the people, look for the poor who are poor because of mental disease or emotional illness, treat them under proper supervision or motivate them for visits to The Mental Health Center. Not only in working with parents do they try to break preventively the cycle of poverty and emotional disturbances, but also by work with neighborhood groups in group therapy, in guidance, in helping to raise the standard of living by self-help, by proper referrals, by pooling the resources of the community to help and by administering casework as distinct from analytically oriented interpretive psychotherapy.

It is hoped that the picture of the map will thus change, not by decreasing the services to the middle-class area, but by spreading the services to the underprivileged.

Acknowledgement: The authors wish to express their appreciation to Mrs. Nancy Reeg, Volunteer at The Mental Health Center of Norfolk and Chesapeake, for compiling the statistics.

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How Much Sleep?

As people grow older they sleep less because they need less—or do they? A recent study raises serious questions about this belief.

Dr. P. M. Tiller, Jr., reported sleep patterns in 83 mentally alert and physically active office patients, 53 less than 70 years of age and 30 who were 70 years or older, during a period of eight months.

These older people complained of tension, fatigue, apprehension, dizziness, feeling of confusion, gastrointestinal symptoms, muscle pain and headache. Data from the study indicate these symptoms occur more frequently and are more intense in patients who sleep seven hours or less than in those who sleep eight hours or more.

Although the pattern of sleep varies a great deal with individuals, the "natural" minimum is considered to be from seven to nine hours.

The Tiller study strongly indicates that "older people apparently live more comfortably if they take an adequate amount of bed rest. Certainly the concept that the amount of sleep or the need of sleep decreases with age can be seriously challenged."—Editorial, *West Virginia Med. J.*, Sept., p. 264.

(Reprinted from Schering Science Bulletin)

Woman's Auxiliary . . . .

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Community Service Through Health Education

We have heard much about quality education in our schools during recent years. We have been willing to accept increased taxation to provide the salaries necessary to obtain the best possible teachers for developing our children's intellect, and yet we have done very little to see that sufficient time is allowed for health instruction. It is true that the situation is improving in some localities. However, in many communities, not only in in our own State, but throughout the nation, this part of education continues to be so neglected that frequently it is considered a "nuisance course", often assigned to professionally unprepared teachers lacking reliable or up-to-date material with which to teach this subject.

Casual examinations of students have demonstrated that they have a poor grasp of health information. Some popular and gross misconceptions are: "Pep pills and sleeping pills can be used without medical supervision"—"Fluoridation is to purify drinking water"—"Venereal disease is not as dangerous to health as it used to be"—"All chronic diseases are contagious". Basically students are indifferent to health education. They seem to prefer to accept magazine, newspaper, radio and television advertisements as always true, and too seldom consult parents or school counsellors for assistance in matters of health.

The habit forming years of youth are the best years in which to mold healthful attitudes towards themselves and their own well-being. The Key to Good Health Is Health Education, an integral part of our auxiliary programs on all levels, county, state and national. Health education is included in the responsibilities of our Community Service Committees, whose purpose is described by the national Auxiliary chairman as "A program designed to improve mental, physical, and social well being."

Community Service Committees are urged to contact appropriate school officials in their area to determine if they are receiving "Health Education Service for Schools and Colleges". This service is in the form of a monthly bulletin which is prepared specifically for health teachers. The bulletin contains abstracts of pertinent articles from health literature not commonly available to teachers through other sources. Because the medical profession has a basic interest in providing authentic and accurate information from reliable sources, the American Medical Association, through its Department of Community Health, provides this Health Education material as a public service. This point should be emphasized by the county auxiliaries in presenting this project in their communities.

Although only one copy of "Health Education Service for Schools and Colleges" is sent each month to any one institution, auxiliaries can advise those concerned in the local schools that permission can be obtained to duplicate this material with proper credit to the AMA. Requests for this bulletin service should be sent to:

Department of Community Health
and Health Education
American Medical Association
535 N. Dearborn St.
Chicago, Illinois 60610

Local auxiliaries might offer to place the original order for the school in their areas. It is hoped that each County Auxiliary will avail itself of the opportunity to render a valuable Community Service and have a very real part in destroying the false ideas now prevalent among our young people regarding their physical and mental health.

Mrs. William F. Gibbs, *Chairman*
Community Service

Ideas Around the Old Dominion

Petersburg: Mrs. Clyde W. Vick, Jr., reports that the annual project of this group is the awarding of a full nursing scholarship to an entering student nurse at the Petersburg General Hospital School of Nursing. Their most effective means of providing for this is through a benefit dinner and dance. They also hold parties for retarded children throughout the year on celebrated occasions.

Fairfax County: Mrs. Bieren reports that obtaining publicity in the Washington, D.C., papers is so difficult that they use a monthly newsletter to keep their members and other interested people informed of their activities.

Hopewell: Mrs. John J. Easterling reports that for five years they have awarded a $125.00 scholarship to a Hopewell High School senior planning to enter a school of nursing. One of their social events in 1965, at which their husbands were special guests, was a theatre dinner party held in December.

Virginia Beach and Newport News: Both of these groups report having had or planning for a joint meeting with the local dental wives.

Roanoke: Mrs. John G. Boyd, Jr., reports for this newest of auxiliaries in Virginia that their major project is to increase membership, most important to all auxiliaries no matter how long established.

Norfolk: Following their temporary museum exhibit last year entitled "200 Years of Tidewater Medicine," both public and professional interest was so great that committees were created in their medical society and its auxiliary, named museum committees, to work toward the permanent establishment of an exhibit depicting the medical history of the area. At present these committees are working with both the Norfolk Historical Society and the Norfolk Museum of Arts and Science to secure a location for such an exhibit. When their plans are complete, the adjoining auxiliaries will again be asked to locate and contribute or lend medical artifacts in order to make the exhibit truly representative of Tidewater Area.

Read in Our Next Issue

All about Doctor's Day, its history and ideas for its observance by every local auxiliary throughout the states comprising the Southern Medical Association.

Who Wants the Cheapest Drug?

When a prescription contains a generic name, it is still incumbent on the pharmacist to dispense a drug he knows to be of the highest quality. Shall we give our patients the cheapest? Is it through no accident that cheap has come to mean inferior as well as inexpensive? When a reputable and well known house puts its name on a product, it has added something to it, and what may be its most important element. If we could be sure that our patients could get the same medication and save money while doing it, other arguments might not carry the day. But if there is a difference, then it is well worth it.—Frank Cole, M.D., in *Nebraska State Medical Journal* (50:507), October, 1965.

Editorial....

Hamman's Sign of Mediastinal Crunch in Mediastinal Emphysema

IN THE LATE 1930's, Louis Hamman, a Baltimore clinician, popularized several patients who had had a sudden onset of unprovoked chest pain, and whose main clinical finding had been a peculiar sound heard by the examiner and often by the patient over the mediastinum, accentuated in cardiac systole, loudest in certain positions, especially when the patient lay on the left side. Some of these patients unquestionably had suffered from pneumomediastinum as proved by subcutaneous gas in the neck; others had had a shallow pneumothorax on the left side. Hamman grouped all these patients together as spontaneous mediastinal emphysema, some with and some without associated left pneumothorax. He believed that the left-sided localization of the pneumothoraces in these patients was only chance and that future experience would find an equal frequency on each side. It was suggested that air from a ruptured alveolus dissected along the perivascular pulmonary planes to reach the mediastinum, thence via perforations in the mediastinal (parietal) pleura into the pleural cavity. It was important to differentiate this syndrome with a good prognosis from other diseases such as myocardial infarction and dissecting aneurysm, with a much more serious outlook.[1]

The clinical picture was soon confirmed by others and the crunch heard over the mediastinum was given almost as many descriptive names as there were observers: click, knock, sound of pebbles falling on taut canvas, walking on snow, rattling of cellophane, peas dropping onto the bottom of a pan, leathery, and the like.

Then followed the sin of equating the sign with the disease, the risk incurred in all "pathognomonic" signs. Even the master Boston radiologist, Sosman, reported as a case of mediastinal emphysema a patient who presented a mediastinal crunch and a radiologically detectable left pneumothorax, but no other clinical or radiological sign of pneumomediastinum.[2] The patient had the mediastinal crunch, therefore he had the mediastinal emphysema. "It [the crunch] was obviously due to compression and expansion of the mediastinal emphysema by the beating heart." How dangerous is the word *obvious*!

Certain clinicians, especially those beyond our shores, began to have some doubts about Hamman's conceptions:

From 47 cases of spontaneous pneumomediastinum studied in the literature, Chapman[3] found a left pneumothorax in 50%; only six presented crepitus in the neck (the only certain clinical sign of pneumomediastinum, if local causes can be excluded); in 12 the diagnosis was based on the clinical finding of the crunch alone; a single frontal roentgenogram of the chest was the basis of the diagnosis in 16. The inference was that many or most of these cases were not pneumomediastinum, but pneumothorax.

In contrast, Chapman had no difficulty collecting many cases of secondary pneumomediastinum such as those associated with trauma, the majority of which presented subcutaneous emphysema; the roentgenologic demonstration of air in the mediastinum was easy. These, then, comprised a different group from the spontaneous variety collected above, and cast further doubt that the majority of the previously described 47 cases were pneumomediastinum.

Scott[4] studied 98 cases of spontaneous pneumomediastinum collected from the literature. Hamman's crunch was present in 90. Roentgenologic evidence of pneumomediastinum was claimed in only 41 of these 98. A left pneumothorax was present in 17 of these 41. The evidence for pneumomediastinum in many of these 41 cases was flimsy. There was a much lower incidence of left pneumothorax when pneumomediastinum was verified by subcutaneous air. Again, the inference was that many, if not most, of these cases were pneumothorax and that Hamman's sign, although present with pneumomediastinum, is present also in the much more common left pneumothorax.

Thus was explained the peculiar frequency of left pneumothorax in "pneumomediastinum": most of these cases of "pneumomediastinum" were not pneumomediastinum but simply left pneumothorax. The disposition towards the left side is explained thus: the left pleural air when in the medial portions of the pleural space is near the vigorously beating cardiac ventricular mass, which sets this air in motion with production of the crunch. The air must be of small quantity; thus the crunch is not heard with massive pneumothoraces. Only exceptionally is the crunch heard with right pneumothorax because the weaker action of the atrial mass does not set this air mass in sufficient motion to produce the crunch. These considerations show why Hamman's prediction that the pneumothorax in spontaneous emphysema will be found on each side with equal frequency did not come to pass. It might be noted that animal experiments with pneumomediastinum demonstrate perforation into each pleural cavity with equal frequency.[5]

The final shred of evidence that the crunch can stem from left pneu-

mothorax comes from induced pneumothorax: the crunch can be heard when only modest amounts of air have been introduced and is lost with larger amounts.[4] Scadding and Wood[6] believe that the crunch of pneumothorax is somewhat different from the more continuous sounds in pneumomediastinum, but Scott among others believes they are identical.

Semple and Lancaster[7] think that the crunch is so much more common in left pneumothorax than pneumomediastinum that they will diagnose left pneumothorax in the presence of the crunch even without roentgenologic evidence of pneumothorax: "It is salutary to add the syndrome to the list of chest conditions which at times may be diagnosed by the stethoscope with greater certainty than by x-ray examination."

Essentially, then, Hamman's crunch is produced by the vigorously beating cardiac ventricular mass setting a nearby small collection of gas in motion, no matter whether it be interstitial gas within the anterior mediastinum or the much more common small left medial pneumothorax. The crunch has been described also in the presence of an esophagus dilated with air, bullous emphysema of the lingular segment of the left upper lobe, a tense pneumoperitoneum, and gastric dilation.[3] All these states fulfill the physical conditions necessary for the production of the crunch.

Christian V. Cimmino, M.D.

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News . . . .

Calendar of Events

National Voluntary Health Conference—Continental Plaza Hotel, Chicago, Illinois—February 16-17, 1966.

AMA Air Pollution Research Conference—Ambassador Hotel, Los Angeles, California—March 2-4, 1966.

Virginia Association of Mental Health—Annual Meeting, Hotel Roanoke, Roanoke—March 8-9, 1966.

Nutrition Forum—Virginia Council on Health and Medical Care, Thalhimers, Richmond—March 14-15, 1966.

Northern Virginia Clinical Assembly—Marriott Key Bridges Motor Hotel, Arlington—March 16, 1966. Program by staff of Temple University Medical College and Hospital.

Medico-Legal Workshop—Tidewater Memorial Hospital, Tappahannock—March 17, 1966.

19th Conference on Rural Health—Broadmoor Hotel, Colorado Springs, Colorado—March 18-19, 1966.

Virginia Tuberculosis and Respiratory Disease Association—Annual Meeting, Marriott Twin Bridges Motor Hotel, Arlington—March 21-23, 1966.

Tri-State Conference on Pulmonary Diseases—Hotel Roanoke, Roanoke—March 27-29, 1966.

National Society for the Prevention of Blindness—Hotel Roosevelt, New York, N. Y.—March 30-April 1, 1966.

Carolinas-Virginia Hospital Conference—Hotel Roanoke, Roanoke—April 14-15, 1966.

AMA Legal Conference—Hotel Continental, Chicago, Illinois—April 14-16, 1966.

Virginia Society of Anesthesiologists—3rd Annual Spring Scientific Meeting—Sheraton Motor Inn, Richmond—April 16-17, 1966.

Virginia Society of Ophthalmology and Otolaryngology—Annual Meeting—Charlottesville—April 28-30, 1966.

Virginia Public Health Conference—Hotel Roanoke, Roanoke—May 3-6, 1966.

Virginia Academy of General Practice—16th Annual Scientific Assembly—Hotel Roanoke, Roanoke—May 12-15, 1966.

Tennessee Heart Association—Scientific Sessions—Gatlinburg, Tennessee—May 19-21, 1966.

Virginia Heart Association—Annual Meeting—Natural Bridge—May 20-21, 1966.

AMPAC National Workshop—Sheraton Park Hotel, Washington, D. C.—May 21-22, 1966.

7th Annual Symposium on Clinical Aspects of Renal Disease—Ischemic Heart Disease and Cardiac Diagnosis—Sponsored by Tidewater Heart Association & Council on Clinical Cardiology, American Heart Association—Cavalier Hotel, Virginia Beach—June 30-July 2, 1966.

New Members.

The following doctors were received into membership in The Medical Society of Virginia during the month of December:

Frederick D'oench Bergen, M.D., Petersburg

George E. Broman, Jr., M.D., Culpeper

Henry Brown, M.D., Richmond

Russell Lewis Davis, Jr., M.D., Radford
James G. Hunter, Jr., M.D., Waynesboro
Harry G. Kennedy, Jr., M.D., Culpeper
Herbert Lamont Pugh, M.D., Washington, D. C.
J. F. Schirmer, M.D., South Hill
Robert Wayne Waddell, M.D., Virginia Beach

Richmond Academy of Medicine.

Dr. Carl W. Meador has been installed as president of the Academy. Dr. William H. Higgins is president-elect; Drs. W. Taliaferro Thompson and Carrington Williams, Jr., vice-presidents; Dr. William R. Hill, chairman of the board of trustees; Dr. E. Randolph Trice, recording secretary; and Dr. John E. Catlett, sergeant-at-arms.

Alexandria Medical Society.

Dr. Robert H. Anderson will be president of this Society for 1966. Dr. M. Hayne Kendrick is president-elect; Dr. William N. Elam, vice-president; Dr. Robert L. Adeson, secretary; and Dr. Ira J. Green, treasurer. Drs. Thomas G. McGough, H. Glenn Thompson, and James G. Brown have been named to the executive committee.

Loudoun County Medical Society.

Dr. Earl E. Virts, Jr., Leesburg, is the new president of this Society, with Dr. A. C. Echols, Purcellville, vice-president, and Dr. Stephen I. Granger, Purcellville, secretary.

Arlington County Medical Society.

Dr. John J. Nolan is president of this society, with Drs. Gerald J. Fisher, president-elect; Robert E. Byrne, vice-president; Robert H. Gruver, secretary; Arthur I. Sims, treasurer; and Sidney A. Tyroler, member-at-large.

Danville-Pittsylvania Academy of Medicine.

Dr. Henry R. Bourne is president of the Academy for 1966. Dr. Richard Klein is secretary.

The Northern Virginia Medical Society

Has installed Dr. Donald H. McNeill, Jr., Front Royal, as president, and Dr. Harold W. Miller, Jr., Woodstock, secretary.

Fauquier County Medical Society.

Dr. A. C. Wagner, Warrenton, is president of this Society, and Dr. James B. Hutt, Jr., Warrenton, secretary.

Mid-Tidewater Medical Society.

Dr. A. J. Martin, Bowling Green, has been installed as president of this Society. Dr. Malcolm H. Harris, West Point, continues as secretary.

The Virginia Pediatric Society

Will hold its annual meeting in Williamsburg, February 25-27. Guest speakers will be Dr. Blair L. Batson, University of Mississippi; Dr. Margaret Bailey Batson, University of Mississippi; Dr. Ed Lambert, Buffalo, New York; Dr. Claude A. Frazier, Asheville, North Carolina; Dr. F. M. Shepard, University of Virginia; and Dr. John F. Bailey, Jr., Medical College of Virginia.

Virginia Society for Pathology.

At the annual meeting of this Society, Dr. Barrie Cook, Fairfax, was elected president and Dr. George J. Carroll, Suffolk, secretary-treasurer.

Virginia Physicians Win Awards.

Dr. Michael J. Moore, Roanoke, has won a 10-day-expenses-paid Caribbean winter vacation for two for the "best original article by a physician" in the 1965 Medical Economics Award campaign.

Drs. Julian W. Selig, Jr., and Forrest P. White, both of Norfolk, were winners of certificates of awards for outstanding articles.

Dr. Moore's article deals with a broad new approach to office time saving procedure and is scheduled for publication early in 1966.

Dr. Charles M. Caravati,

Richmond, has been named assistant dean in charge of continuation education at the Medical College of Virginia and was also appointed professor of medicine. Dr. Caravati has been in private practice in Richmond for forty-three years and will continue as a consultant in gastroenterology.

Dr. Dawson Retires.

Dr. A. Ray Dawson, Richmond, has retired as chief of physical medicine at the McGuire VA Hospital. He has completed 33½ years of government service.

Dr. Ralph G. Beachley,

Recently retired Director of Public Health of Arlington County, has been named executive secretary of The George Washington University Medical Alumni Association.

Dr. Beachley was also elected to the Board of Directors of the Fidelity National Bank of Arlington.

Medical Staff Members.

Dr. Thomas G. Bell, has been elected president of the medical staff of the King's Daughters Hospital, Staunton. Dr. Louis A. Hedberg is vice-president; Dr. William Branscome, secretary-treasurer; Dr. C. J. Waller, executive committee member-at-large; and Dr. H. T. Holden, immediate past president.

Dr. Francis R. Whitehouse.

Lynchburg, has donated funds for the construction of a new dormitory at Hampden-Sydney College. This is to be a memorial to his parents who were killed in an airplane crash in 1959.

Dr. Francis H. McGovern,

Danville, has returned from a two-week stay in Tunisia, under the auspices of CARE/MEDICO and the Tunisia Ministry of Health. He made a series of six lectures to medical groups and also surveyed facilities that might make possible the establishment of an ear, nose and throat department at the Tunis installation.

Annual Clinical Conference.

The annual clinical conference of the Louise Obici Memorial Hospital, Suffolk, will be held April 6th. The program will be on Menopause—its problems—a practical approach. Among the participants will be Dr. Felix Wroblewski, Brookdale Hospital, Long Island; Dr. William Sweeney, Cornell University; Dr. Stanley J. Birnbaum, Cornell University and Brookdale Hospital; Dr. Bayard Carter, Duke University; and Dr. John K. Frost, Johns Hopkins University.

The second annual award for outstanding contributions to medicine will be given to Dr. Francis Bayard Carter who is professor of obstetrics and gynecology at Duke University.

Dr. Mack I. Shanholtz.

State Health Commissioner, has been appointed a member of an advisory committee on the United States Public Health Services' foreign quarantine program.

St. Mary's Hospital Staff.

Dr. Edwin L. Kendig has been named president of the medical staff of the new St. Mary's Hospital, Richmond. Heads of the major departments of the hospital will be: Dr. Charles M. Zacharias, medicine; Dr. Robert Hoffman, pediatrics; Dr. David C. Forrest, obstetrics and gynecology; Dr. Charles R. Riley, surgery; and Dr. Robert K. Duley, general practice.

St. Mary's, which was built by the Roman Catholic Diocese of Richmond, was dedicated on January 9th and is scheduled to be opened for patients early in February. There will be 153 beds ready for the opening, and additional space is available for further expansion.

Dr. James F. Waddill

Has been appointed to succeed Dr. Leroy D. Soper as director of medical education and outpatient services at Obici Memorial Hospital, Suffolk. Dr. Soper retired the end of 1965. Dr. Waddill has been staff physician at the VA Hospital at Kecoughtan since 1961.

Section Officers in Southern Medical Association.

The following doctors from Virginia have been elected as section officers at the recent meeting of the Southern Medical Association:

Dr. Jerome E. Adamson, Norfolk, chairman-elect of the Section on Plastic and Reconstruction Surgery.

Dr. Neil Callahan, Portsmouth, chairman-elect of the Section on Otolaryngology.

Dr. Carrington Williams, Jr., Richmond, secretary of the Section on Surgery.

Dr. Margaret Pennington,

Buckingham, has been elected president of the newly organized Central Virginia Arts Association. This Association has eighty members who come from the counties of Buckingham, Nelson, Fluvanna, Cumberland, Amherst, Appomattox, Prince Edward, Charlotte, and a portion of Albemarle.

Arnold Strauss Memorial Lectureship.

Dr. Strauss, Norfolk, who died November 6th, will be honored by the establishment of this lectureship. According to Dr. George F. Elsasser, Jr., chairman of the lectureship fund committee, the group plans to accept contributions for the memorial. The fund will be used to maintain an annual lectureship in Norfolk by nationally or internationally known scientists and physicians, representing all fields of medical specialties.

Dr. Donald R. Holsinger,

Martinsville, has been appointed chairman of the Virginia Heart Association's Research Committee.

New Reporting Form

Next time you furnish the Social Security disability program with evidence on a patient's condition, you'll be asked to report by means of a standard narrative rather than a questionnaire-type form. If the report lacks sufficient information for a disability determination, the physician reviewing the claim may phone you for additional data that you may have on the patient's chart. If you haven't the information he needs, he may ask you to perform additional examinations or tests at a scheduled fee.

These developments were announced by Dr. M. Jane Page, Chief Medical Consultant of the Virginia Disability Determination Section, the State agency that makes determinations for the Social Security program locally.

Physicians' preferences led to replacing the old-style questionnaire with the new narrative report. Studies in six States demonstrated that doctors could give a clearer, more complete clinical picture of a claimant by using a reporting format that comes as second nature to most physicians. As a result, the disability program is introducing nationwide a revised form designed to provide ample space and a more effective format for detailing the patient's history, physical and laboratory findings.

"This format and space will help you transcribe those parts of the patient's chart pertinent to his impairment," said Dr. Page. "When you report the data that the reviewing physician needs to evaluate remaining capacity for work, you're helping your patient receive prompt, sound handling of his claim."

If additional data is needed for an evaluation, the reviewing physician at the State agency may call your office and request that you return the call at your convenience. If the information he needs is available in your

records, it can be given over the phone. Otherwise, he may invite you to obtain it for a fee that has been established in conjunction with the State medical society.

Experience shows that such phone calls generally take under five minutes. In States where this technique has been tested, reporting doctors volunteered the opinion that they prefer such calls to letters of inquiry. Also, doctors said, they welcome the chance to discuss the case with colleagues at the State agency.

Clinic for Genetic Counseling.

The cooperation of physicians in the Maryland, D. C., and Virginia area is requested in the referral of patients to participate in an outpatient clinic for genetic counseling in hereditary disorders, newly established by the National Institute of Arthritis and Metabolic Disease at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

In recent years an increasing number of diseases have been found to be hereditary in nature, and the basic metabolic defects in several of these conditions have now been elucidated. In many cases, the lives of individuals with hereditary diseases have been significantly prolonged so that they are able to marry and to have children.

Despite these medical advances, it is still quite difficult for many patients and their physicians to obtain accurate information about the genetic aspects of such diseases. For this reason the outpatient clinic, staffed by physicians interested in human genetics and metabolic diseases, has been organized. The clinic physicians will provide counseling and in some conditions diagnostic help, while at the same time searching for ways to improve the availability and quality of genetic advice.

Physicians interested in having their patients with any type of hereditary disease considered for clinic counseling may write or telephone: Charles J. Epstein, M.D., Clinical Center, Room 9-D-10, National Institutes of Health, Bethesda, Maryland 20014. Telephone: 656-4000, ext. 64650 (Area code 301)

Hospital Physicians Wanted.

The Medical Staff, Board of Directors and Administration of Norfolk General Hospital, Norfolk, Virginia, are agreed to the plan of four full time physicians to be in private general practice limited strictly to the emergency department of the hospital. A generous guarantee has been established. Average work week is 42 hours per week.

Four experienced physicians are needed for this type of career, requiring no investment. Those interested should contact the Medical Committee Chairman responsible for selecting the four qualified physicians who will work in harmony together in the best interest of patients in the emergency department of Norfolk General Hospital. Target date to begin is April 1, 1966, or thereabouts.

Position Available.

Chief of Maternal and Child Health, male or female, age 50 or under. Graduation from medical school, eligible for license to practice in Virginia, and three years of experience in the practice of medicine. Experience in pediatrics or obstetrics preferred. Stimulating position in large City Health Department with excellent fringe benefits. Salary up to $15,210 annually, dependent upon qualifications. For further information, contact Director of Public Health, Richmond City Health Department, 500 North 10th Street, Richmond, Virginia. (*Adv.*)

Pediatrician Wanted.

Under 35, for 20 partner Southern California specialty group. Partnership potential after first year. Administrator, Gallatin Medical Group, 10720 South Paramount, Downey, California. (*Adv.*)

Urologist Wanted

For specialty partnership in California. Write #65, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries . . . .

Dr. Strauss.

Dr. Arnold F. Strauss was born in Wuptertal-Barmen, Germany, on September 9, 1902. He received his preliminary education and medical training in Germany and was graduated from the University of Bonn with a Doctoral Degree in 1928. After extensive post-graduate training in anatomical and clinical pathology in Germany, Switzerland, and Holland, he came to the United States in 1935. He first settled in Montgomery, West Virginia, and in December 1936 accepted the position of Pathologist and Director of Laboratories at the old Saint Vincent De Paul Hospital in Norfolk.

He was licensed in Virginia in 1937, certified by the American Board of Pathology in Anatomical Pathology in 1940 and Forensic Pathology in 1961. From 1944 to 1954, he held the Commission of Senior Surgeon in U. S. Public Health Service. In 1946 he was pathologist assigned to the Chief Medical Examiner's office of the Virginia-Tidewater area, and in 1958 was appointed Senior Consultant, Chief Medical Examiner's Office of Virginia.

While he was primarily Pathologist and Director of Laboratories of Saint Vincent's Hospital and later De Paul Hospital, he served as Consultant Pathologist for the U. S. Public Health Hospital, Consultant and Instructor to the U. S. Naval Hospital in Portsmouth, Consultant and Lecturer for the Veterans Administration Hospital, Kecoughtan, Consultant for McDonald Army Hospital, Fort Eustis, and held part-time positions as Pathologist to King's Daughters Hospital and Maryview Hospital in Portsmouth; Community Hospital and Leigh Memorial Hospital in Norfolk and Virginia Beach Hospital.

He held membership in fourteen scientific societies, including the American Medical Association, The Medical Society of Virginia, and the American Association of Pathologists and Bacteriologists. He was a Fellow of the American College of Physicians and a past president of the Virginia Society for Pathology.

He died of an acute coronary occlusion on November 6, 1965, while recuperating from a recent previous attack, at home, surrounded by family and friends.

This, in brief, is the outline of the professional life of Arnold Strauss. But it describes only one facet of his career. His interests and his influences were so varied and diverse as to almost defy description. He was well grounded in the classics and antiquity, and taking from them what he knew to be good, he sought by scientific method and investigation to add to knowledge for the good of mankind.

Arnold Strauss was a physician. While his chosen field of specialization was pathology, he demonstrated the kindness and compassion that epitomizes our profession, and by his understanding of human motives was able to link the physical manifestations of disease with the psychogenic. During his life he served as a catalyst that kept Norfolk's medicine at a high level.

Each autopsy was a multiple challenge to him, not only from the pure scientific point of view, but to assist his colleagues in unraveling the puzzles of disease, believing as did Hippocrates, "That it be valuable to learn of unsuccessful experience to know the cause of their failure." To those who wished to learn, he was a kindly friend and devoted teacher. He had no motive but to advance the quality and accuracy of the practice of medicine, for he epitomized the ideal pathologist. Finding many puzzles and unanswered questions in his work, he applied his broad knowledge of foreign language and his inexhaustible energies to investigating these problems. The worth of his work is attested to in 17 publications in major journals in the American and German literature and among others, a monumental work in Forensic Pathology.

Devoting his teaching energies first to his colleagues in practice, he soon attracted to himself young men and women who served as residents under his direction. Their gratitude and loyalty was demonstrated in 1962 at a testimonial dinner in his honour when 16 of his former students assembled to do him honour on the occasion of his 60th birthday, and when many came from all over the country to pay their last respects at his funeral.

Realizing a need for greater knowledge of pathology, he conducted classes for physicians in other specialties preparing for their Board Examinations and his skill as a teacher is seen in the fact that none of those who studied with him ever failed in the pathology section of their examinations.

As a teacher, he soon became known throughout the state and country. Many pathologists in other cities sent young physicians to him for training and in 1953 he was appointed to the faculty of the Medical College of Virginia, holding the title of Associate Clinical Professor at the time of his death. In fact, he was first stricken when in Richmond to conduct a class. Until his death, he traveled widely to scientific meetings to teach and to learn, for Arnold

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# OF CULTURES	YEAR	% EFFECTIVE
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5,440	1963	88.0%
10,384	1964	88.5%

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1,519	1963	95.2%
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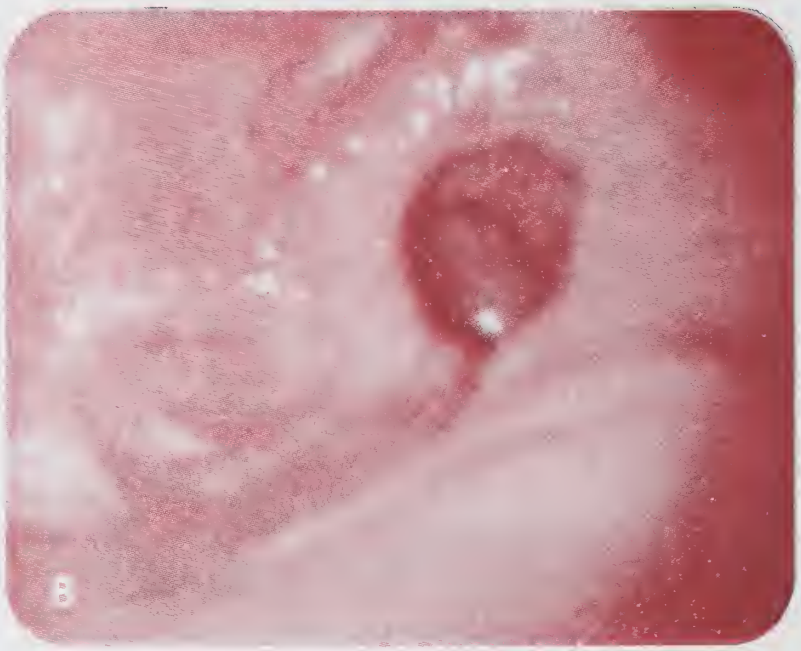
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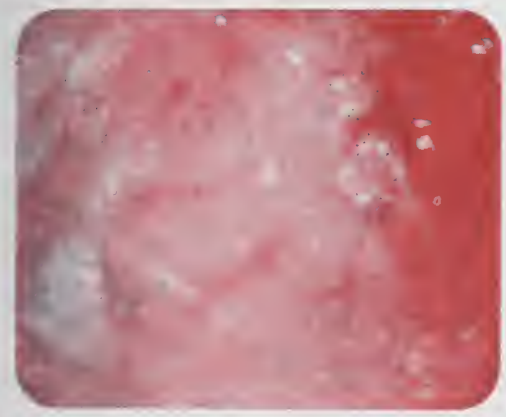


Which Is Pyloroplasty with Vagotomy?
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Photographs—Harry Barowsky, M.D., Lawrence Greene, M.D., and Robert Bennett, M.D., from a Scientific Exhibit presented at the Annual Meeting of the American College of Gastroenterology, Bar Harbour, Florida, Oct. 24-27, 1965.

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Normal relaxed pyloric antrum; contracted pylorus (pyloric fleurette)

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Pro-Banthine consistently produces complete relaxation and immobility of the stomach with a dose of only 6 to 8 mg. intravenously. This is less than half the usual dose orally.

Atropine, on the other hand, required 0.8 mg. intravenously, or twice the normal dose, to achieve a similar effect. This high dose of atropine resulted in expectedly adverse side effects.

Pro-Banthine, in minimal dosage, produces effects similar to pyloroplasty and vagotomy without the disadvantages of permanent post-vagotomy sequelae.

The intragastric photograph A is of a patient who has had pyloroplasty with vagotomy. Photograph B is of a patient given 6 mg. of Pro-Banthine.

Indications: Peptic ulcer, functional hypermotility, irritable colon, pylorospasm and biliary dyskinesia.

Oral Dosage: The maximal tolerated dosage is usually the most effective. For most *adult* patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily may be required. Pro-Banthine (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type ampuls of 30 mg.

Side Effects and Contraindications: Urinary hesitancy, xerostomia, mydriasis and, theoretically, a curare-like action may occur. Pro-Banthine is contraindicated in patients with glaucoma, severe cardiac disease and prostatic hypertrophy.

SEARLE

Research in the Service of Medicine

Strauss was always humble, realizing that so many of the problems of medicine are still unsolved.

His great impact as a teacher, however, was in his day to day contact with his practicing colleagues whom he guided and inspired throughout his entire life.

It is worthy of note that Arnold Strauss was not a cloistered scholar. He had a passionate love of nature and as a young man, was an ardent skier and mountain climber. On coming to Virginia and Tidewater, he was unable to satisfy this love, but transferred it to swimming off Virginia Beach where he was well known for his endurance. It was this love of the outdoors that led him into the field of archaeology, and here too he left an indelible imprint. He undertook field trips to Mexico and Peru, where his skill at research rapidly resulted in his becoming an expert in the field of Pre-Columbia Art. His private collection of artifacts and other objects of archaeological interest is the envy of many museums and it is to be stressed that these were mainly obtained during personal expeditions and excavations. His interest in this field took him repeatedly to South America, where, in characteristic fashion, he also presented papers in Spanish to the Peruvian Pathological Society of which he became a corresponding member in 1953.

Dr. Strauss' interest in archaeology can undoubtedly be traced to his knowledge of art and, during a lifetime of study, had collected a large number of varied pieces of sculpture and graphic arts. In this, he was joined by his wife, Marjory, and together they indulged their interest in this field, as well as in music. In his youth, he played the violin and, while not continuing to do so, was a great lover and student of music, and with his wife, was instrumental in advancing the Feldman String Quartette to its present level of excellence. Their home has for many years been a salon where artists and musicians meet, rehearse, and enjoy each other's gifts. To their home, too, came national and international figures in medicine and archaeology, and with many more he kept up a fruitful and mutually enjoyable correspondence.

It was in this atmosphere that his daughter was raised, and in spite of the demands of his many interests, there was time for him to be a kind and loving father who guided his daughter into the many interests that were so much of him.

The memory of Arnold Strauss will remain as long as any of us lives, but his effect on the advancement and quality of medical care and practice in Norfolk and Virginia has been woven into the fabric of its history.

THEREFORE, BE IT RESOLVED that we convey to his family our sincere sympathy and deep respect for his memory.

BE IT FURTHER RESOLVED that a copy of this resolution be spread upon the minutes of the Norfolk County Medical Society and a copy published in the Virginia Medical Monthly, and a copy sent to the family.

ROBERT J. FAULCONER, M.D.
JOSEPH D. LEA, M.D.
ROBERT L. PAYNE, JR., M.D.
JOHN FOSTER, M.D.

Dr. Sawyer.

On October 8, 1965, Dr. Walter Wesley Sawyer, Jr., an active member of this Society, was suddenly stricken at his residence and died shortly thereafter in a local hospital. He had been engaged in the practice of neurosurgery in this locality for the past eight years.

Dr. Sawyer, the son of Dr. and Mrs. Walter Wesley Sawyer, was born in Elizabeth City, North Carolina, on January 23, 1916. His early education was obtained in the local city schools, and he received his B.S. Degree from Davidson College in 1938. In 1943, he was awarded his M.D. Degree from Temple University Medical School, interned one year at the Temple University Hospital, and then entered the service of the United States Navy in World War II. He served faithfully and with distinction as a ship's Medical Officer in the Pacific Theatre of operations, and was released from active duty in 1947 with the rank of Lieutenant. From 1947 until 1952 he took residency training at both De Paul and Norfolk General Hospitals in general surgery, pathology, and neurosurgery. He continued his neurosurgical residency training at the University of Virginia Hospital and the McGuire General Hospital, Richmond; and completed this training in July 1957, at which time he returned to Norfolk and began his private practice.

Dr. Sawyer was a staff member of De Paul, Leigh Memorial, Norfolk General, Norfolk Community, Maryview and Portsmouth General Hospitals. He was a member of the Norfolk County Medical Society, The Medical Society of Virginia, the Seaboard Medical Society and the Southern Medical Association.

Dr. Sawyer was alive to the happenings of the world about him. He was richly interested and dedicated to the furtherment of the social graces, of religion and civic endeavors. At the time of his death, he was a member of the Official Board of the Ghent Methodist Church, and was the President of the Norfolk Sertoma Club.

His many friends, associates, and patients will long remember Dr. Sawyer as a man of unusual friendliness, benevolence, and equanimity; for his understanding, modesty, and compassion; and for his abil-



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Side effects: Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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ity and diagnostic acumen in his specialized field of endeavor.

WHEREAS: The Norfolk County Medical Society wishes to express its sense of deep loss in the passing of a good friend to all and a fellow member; and to extend its sincere sympathy to Mrs. Sawyer.

BE IT RESOLVED: That a copy of this resolution be entered in the minutes of this Society, and that copies be sent to Mrs. Gwendolyn Sawyer and to The Medical Society of Virginia.

JAMES S. KITTERMAN, M.D.
J. W. CREEF, M.D.
JAMES L. THOMSON, M.D., *Chairman*

Dr. Sumpter.

Dr. Grover Cleveland Sumpter was one of our beloved pioneer country physicians who made the transition to modern medicine.

He was born on a farm in a remote section of Hancock County, Tennessee, on February 20, 1885. He was graduated from the old Lincoln Memorial University, College of Medicine (consolidated with University of Tennessee in 1914) in May, 1913. However, he began practice at his farm home betwen his 3rd and 4th year having already passed his State Boards. He made his calls on horseback until 1917 when he got a Model T.

He moved to Rose Hill, Virginia in February, 1922, where he maintained an active practice and was a working farmer, as well, until 1963 when illness forced him into semi-retirement. He delivered some 3,800 babies with the loss of only one mother during child birth.

He received his golden "T" award from the University of Tennessee in Memphis in September, 1963, and 50 year recognition from The Medical Society of Virginia in October, 1963.

He was a member of the Baptist Church, The Grand Lodge of Virginia, Lee County Medical Society, The Medical Society of Virginia and a past member of American Medical Association.

Dr. Sumpter lived a long and fruitful life. He was admired and respected by his community and all who knew him. He will particularly be missed by his medical associates. He fought the ravages of carcinoma of the liver from 1961 until his death on October 4, 1965, with the same courage he faced life. His wife, daughter and granddaugher survive him.

BE IT RESOLVED therefore that these sentiments be spread upon the Minutes of the Lee County Medical Society and copies be sent to the Virginia Medical Monthly and to his family.

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512214

1. Torosdag, S., Schvartz, N., Fletcher, L., Fertig, H., Schwartz, M. S., Quan, R. F. B., and Bryant, J. M., Pargyline Hydrochloride as an Antihypertensive Agent With and Without A Thiazide, Am. J. Cardiol., 12:822, Dec., 1963.

2. Pollack, P. J., Pargyline Hydrochloride and Methyclothiazide Combined In The Treatment of Hypertension, Cur. Thera. Res., 7:10, Jan., 1965.

3. Bryant, J. M. et al., Antihypertensive Properties of Pargyline Hydrochloride, New Non-Hydrazine Monoamine Oxidase Inhibitor Compared with Sulphonamide Diuretics, J.A.M.A., 178; 406, Oct., 1961.



BP reductions in the recumbent and sitting positions often are nearly as great as in the standing. In clinical trials, the average *recumbent* BP reduction was 36/18 mm. Hg.



The average *standing* reduction in clinical trials was 45/22 mm. Hg. Thus the difference between the standing and recumbent readings was only 9/4 mm. Hg.

Significantly lowers blood pressure in all body positions; less likelihood of orthostatic hypotension

In clinical trials, the average reduction in standing blood pressure was 45/22 mm. Hg.; in the sitting position it was 48/20 mm. Hg.; and in the recumbent position, 36/18 mm. Hg.

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CONTRAINDICATIONS: Eutron is contraindicated in patients with pheochromocytoma, advanced renal disease, paranoid schizophrenia and hyperthyroidism. Until further experience is gained it cannot be recommended for use in patients with malignant hypertension, children (under 12 years of age), or pregnant patients.

The concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. A drug-free interval of two weeks should separate therapy and use of these agents.

WARNINGS: Pargyline hydrochloride is a monoamine oxidase inhibitor. Patients should be warned against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When it is necessary to administer alcohol, narcotics (notably meperidine), antihistamines, anesthetics, barbiturates and other hypnotics, sedatives, tranquilizers, or caffeine, these agents can be used cautiously at a dosage of ¼ to ⅕ the usual amount. Avoid parenteral administration where possible. Withdraw pargyline two weeks before elective surgery.

Patients should be warned about the possibility of postural orthostatic hypotension. Those with angina or other evidence of coronary disease should not increase physical activity. Pargyline may lower blood sugar. Potassium depletion is unlikely at the recommended dosage, but if it occurs, adjust dosage or withdraw or provide added natural food sources of potassium; potassium tablets should be avoided wherever possible, as bleeding or obstructive ulceration of the small bowel has been associated with their use; potassium levels should be especially watched if the patient is on digitalis or steroids, or if hepatic coma is impending.

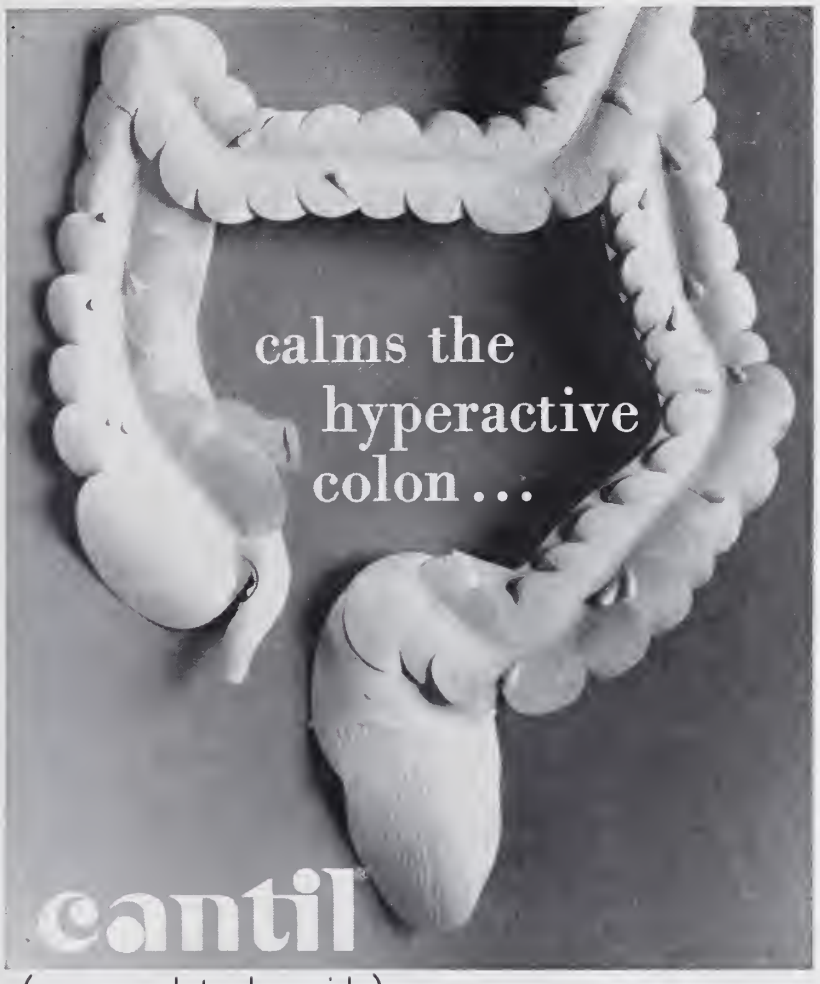
PRECAUTIONS: When determining the antihypertensive effect of Eutron, blood pressure should be measured while the patient is *standing*. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Pargyline has not been shown to cause damage to body organs or systems. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. The drug should be used with caution in patients with liver dysfunction. With prolonged therapy, examine patients for change in color perception, visual fields, and fundi.

Elevated blood urea nitrogen, serum uric acid or blood sugar are possibilities attributable to the methyclothiazide in Eutron. Methyclothiazide may also reduce arterial response to pressor amines. Blood dyscrasias, including thrombocytopemia with purpura, agranulocytosis and aplastic anemia, have been seen with thiazide drugs.

SIDE EFFECTS: The use of pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extra-pyramidal symptoms have been reported. Drug fever is extremely rare. Congestive heart failure has been reported in a few patients with reduced cardiac reserve. Nocturia has been observed with the combination. If side effects persist, despite symptomatic therapy or reduction of the dose, discontinue the drug.

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1-Riese, J.A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

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IN
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*Gold, H., *et al*: Closed Panel Conference: Present Status of the Management of Congestive Failure and Advances in Diuretic Therapy, Journal of New Drugs, 1:177, July-August, 1961.

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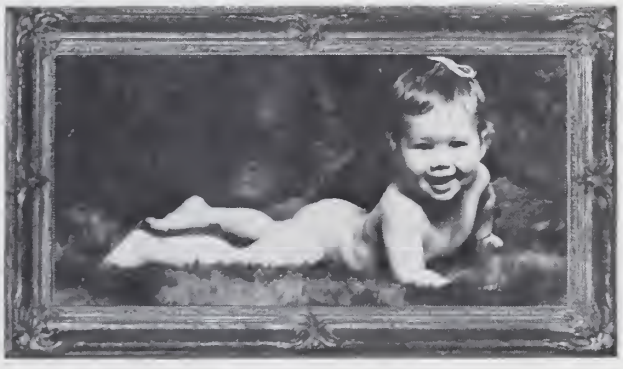
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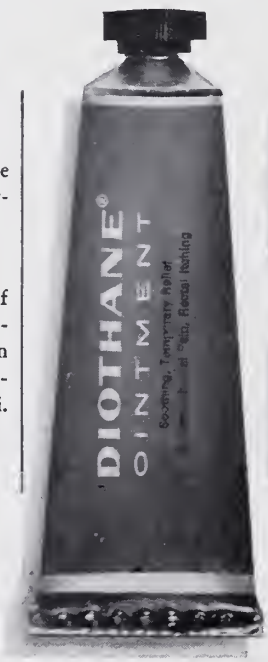
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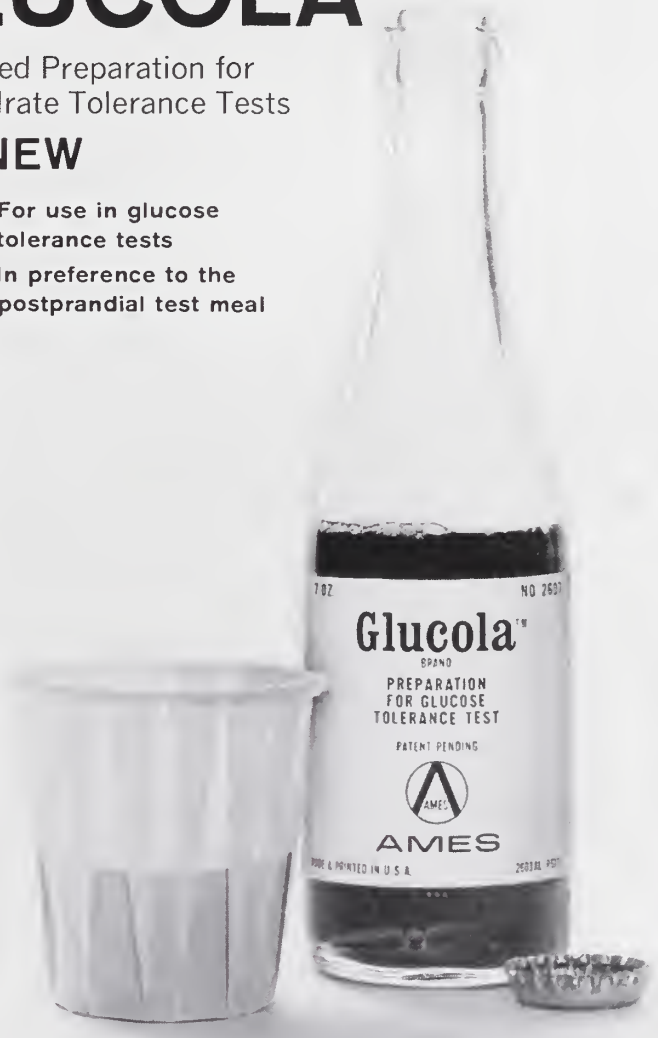
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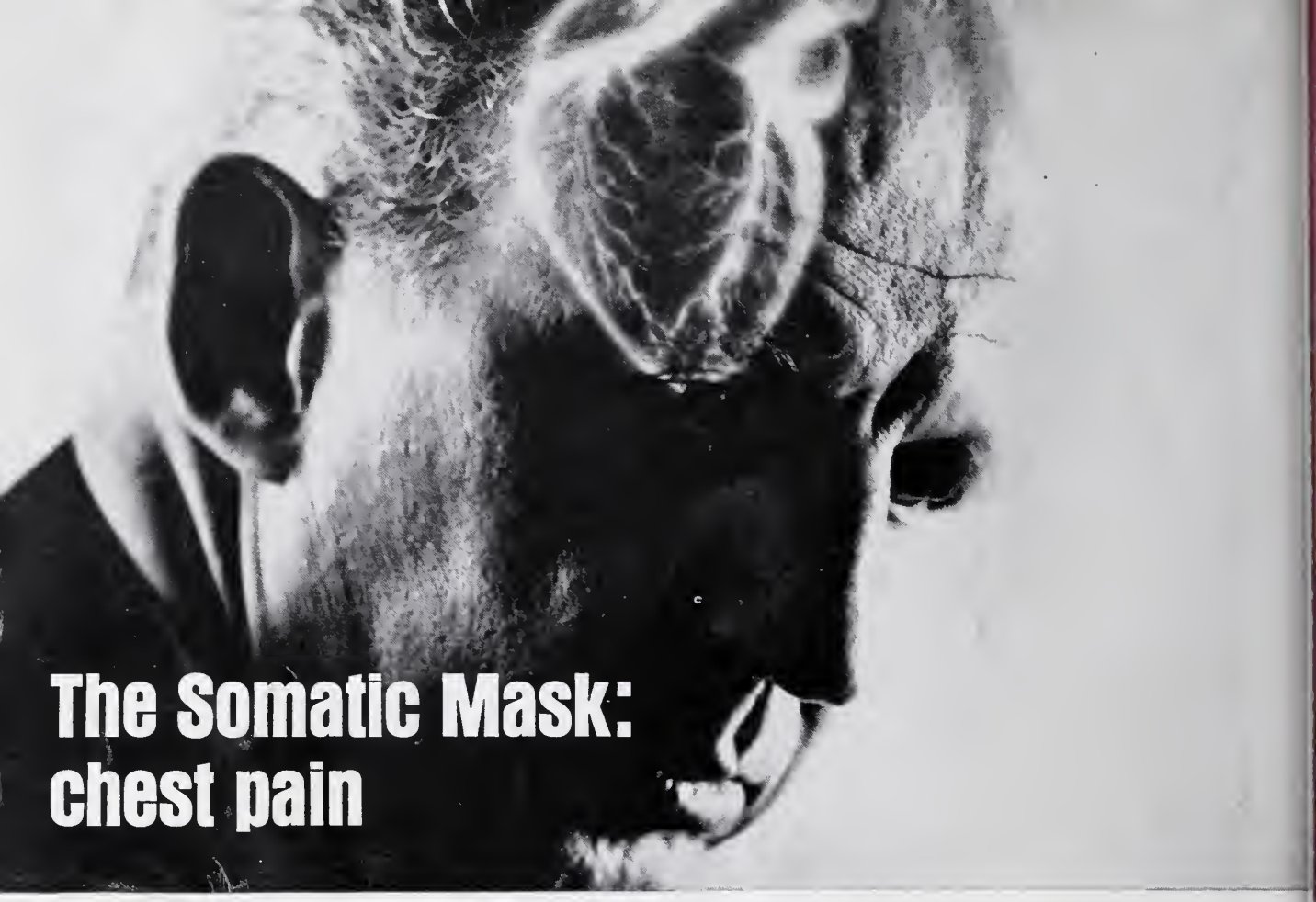
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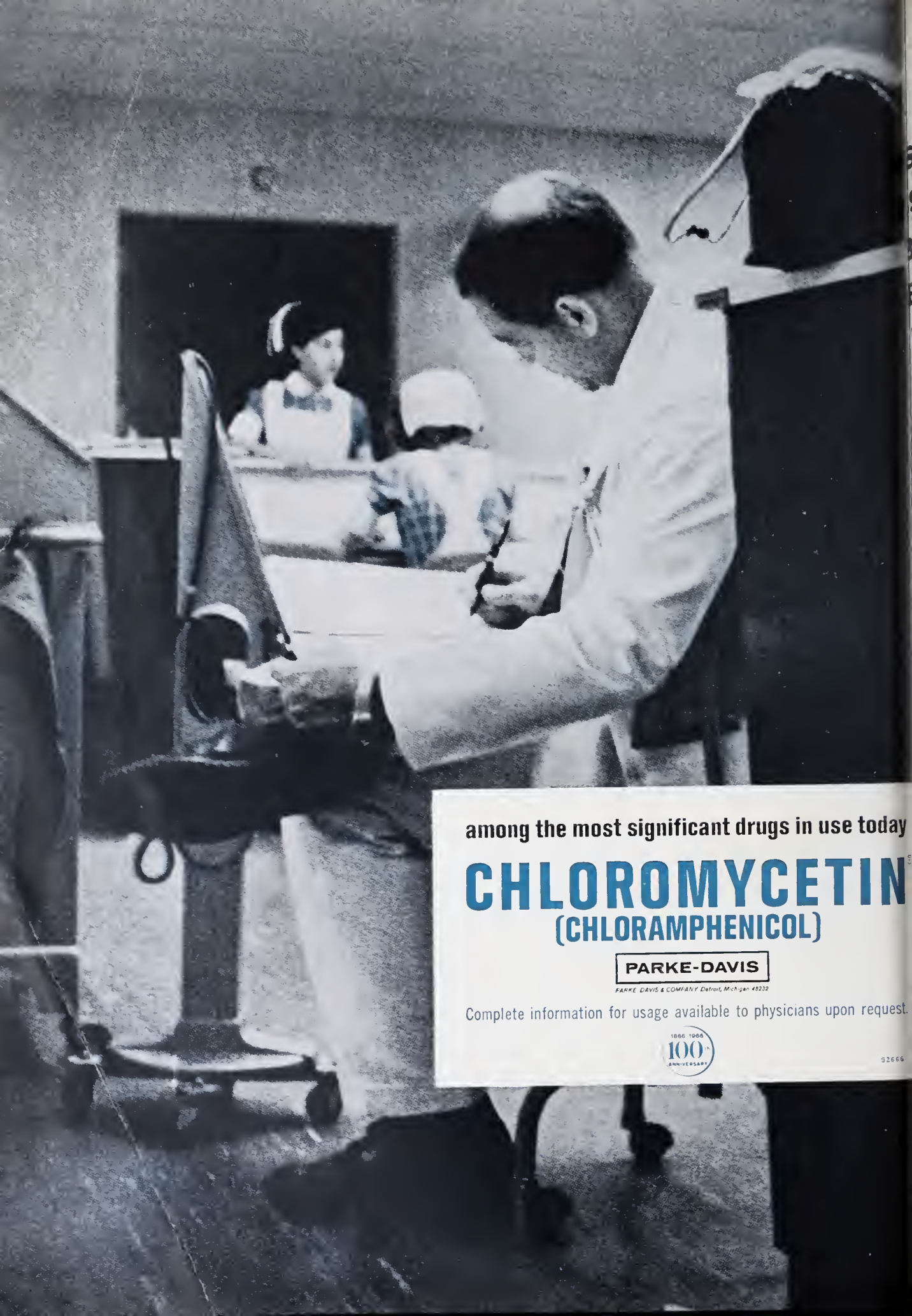
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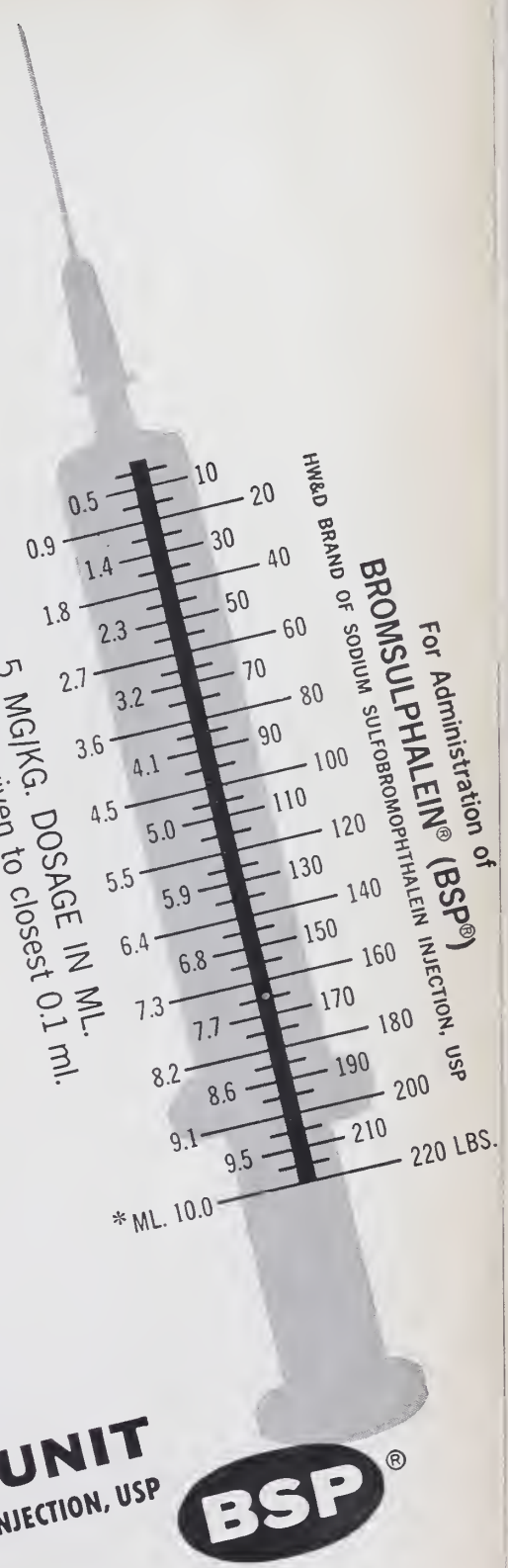
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1% solution for adults (resistant cases)

*Proctor, D. F.: The Nose, Paranasal Sinuses, and Ears in Childhood, Springfield, Ill., Charles C Thomas, 1963, p. 34.

Winthrop

Winthrop Laboratories, New York, N.Y. 10016

In colds and sinusitis

Neo-Synephrine® HCl

(brand of phenylephrine hydrochloride)

solutions/sprays/jelly

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A palatable chloral hydrate syrup containing 10 grains in each teaspoonful.

J. and V.

JONES and VAUGHAN
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DISABILITY INCOME INSURANCE

3 REASONS WHY

If you are disabled by sickness or accident and unable to work, your income stops.

Where do you get the money . . . .

- . . **that you normally spend on food?**
- . . **that you normally spend on shelter?**
- . . **that it takes to maintain your office?**

There is no question how your income will continue if you enroll in the DISABILITY INCOME PLAN which is sponsored and recommended by THE MEDICAL SOCIETY OF VIRGINIA.

With these outstanding features:

- ✓ Benefits paid directly to you. You spend the money any way you want;
- ✓ This plan is yours until age 75; (Plan A or Plan B)
- ✓ Under Plan A—Benefits paid to age 65 for sickness—lifetime for accident.

  As an example: If you were disabled at Age 50 it would be possible for you to collect $144,000.00 (15 years at $800.00 per month)—NOT 5 years. At younger ages the amount possible to collect is much greater.

Protect your earnings and ability to pay. Get complete details during the Open Enrollment Period—now in progress.

Mail to

David A. Dyer Insurance Agency
Medical Arts Building
Roanoke, Virginia 24011

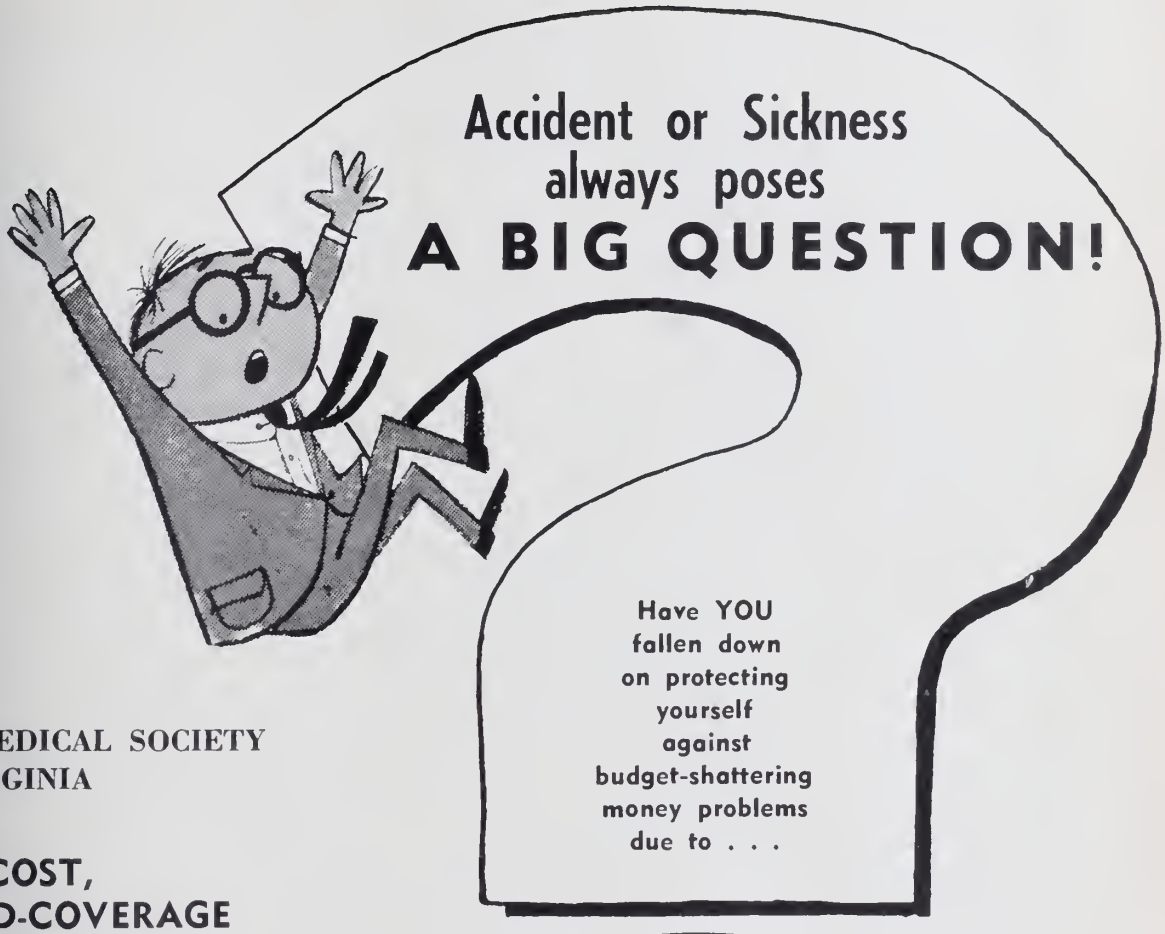
Dave,

I have enough problems without having to worry about how I'll pay the rent, the grocery bills, or keep the office open if I'm disabled. Please rush to me, without obligation, all the facts on the Disability Income Program for physicians and surgeons, underwritten by Insurance Company of North America, Phila., Pa.

Name _____

Address _____
Street

_____
(City) (State) (Zip)



THE MEDICAL SOCIETY OF VIRGINIA

sponsors

LOW-COST, BROAD-COVERAGE ACCIDENT

and

SICKNESS INSURANCE PLANS

exclusively designed to ease your mental anxieties about possible severe financial loss resulting from injury or sickness

HAVE YOUR NURSE PHONE US COLLECT

Don't wait a minute longer? Find out today why The Medical Society of Virginia has selected these plans as the best available for its members. We'll be glad to send YOU descriptive material and convenient enrollment forms. NO OBLIGATION, of course!

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Think about it.
Think about car-leasing. Dependable transportation, always there when you need it. You always drive a new car at lowest cost, less than rentals. Always properly serviced for efficient performance; available anywhere in Virginia. Frees working capital. Tax advantages, too.
Makes sense. Think about it. Then call our Lease Manager, Joseph Reynolds, at 233-9861 for Haley's care-lease service. Haley Pontiac at 9th and Hull Streets in Richmond, Virginia . . . for your choice of any make or model car, domestic or imported.



more complete relief for the "dyspeptic"

DACTILASE®

Dactilase provides comprehensive therapy for a wide range of digestive disorders. Its antispasmodic and anesthetic actions rapidly relieve pain and spasm. Dactilase decreases hypermotility without inducing stasis. In addition, it supplies digestive enzymes to help reduce bloating, belching and flatulence. Dactilase does not interfere with normal digestive secretions. Very often it can be a most useful answer to the dyspeptic's needs.

DACTILASE: Each tablet contains: Dactil® (piperidolate hydrochloride), 50 mg.; Standardized cellulolytic* enzyme, 2 mg.; Standardized amylolytic enzyme, 15 mg.; Standardized proteolytic enzyme, 10 mg.; Pancreatin 3X** (source of lipolytic activity), 100 mg.; Taurocholic acid, 15 mg.

*Need in human nutrition not established. **As acid resistant granules equivalent in activity to 300 mg. Pancreatin N.F.

Side Effects and Contraindications: DACTILASE is almost entirely free of side effects. However, it should be withheld in glaucoma and in jaundice due to complete biliary obstruction.

Administration and Dosage: One tablet with, or immediately following each meal. Tablets should be swallowed whole.

Supplied: Bottles of 60 and 250.

LAKESIDE LABORATORIES, INC.
Milwaukee, Wisconsin 53201

to help relieve pain in common anorectal disorders

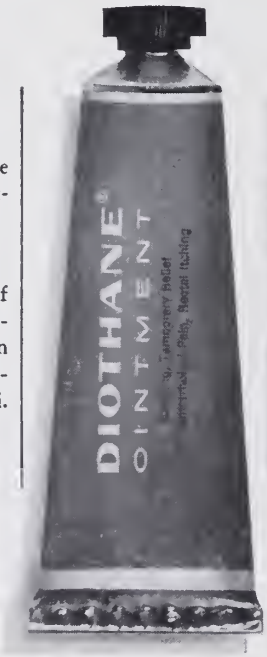
"non-caine" Diothane®

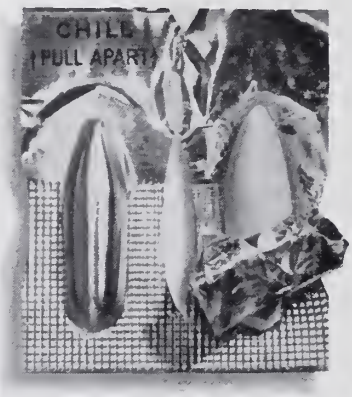
Diothane—with its chemically distinct "non-caine" anesthetic agent diperodon—provides effective temporary topical anesthetic and emollient actions for soothing relief of anorectal pain. Anesthetic activity is effective and relatively prolonged; sensitization is infrequent. Reports to Merrell on 1,500 patients treated pre- and postoperatively with Diothane Ointment, indicate only 22 developed local skin reactions. Reactions to Diothane have been burning or stinging sensations and a few cases of allergic manifestations. An additional advantage: Diothane Ointment and Suppositories are mildly antiseptic. Prescribe or recommend either form...both are now available.

DIOTHANE OINTMENT

COMPOSITION:
diperodon 1.0%; oxyquinoline benzoate 0.1% in a special ointment base.

INDICATIONS:
Provides temporary palliation of pain that may result from hemorrhoidectomy and from common anorectal disorders such as hemorrhoids, anal fissures, pruritus ani.





DIOTHANE SUPPOSITORIES

COMPOSITION:
Each suppository, weighing approximately 2.6 Gm., contains diperodon 1.0%; urea 10.0%; oxyquinoline benzoate 0.1% in a special hydrophilic suppository base. A unique shape keeps the suppository in intimate contact with mucous membranes.

INDICATIONS:
Provide for temporary palliation of pain caused by hemorrhoids and pruritus ani.

Merrell

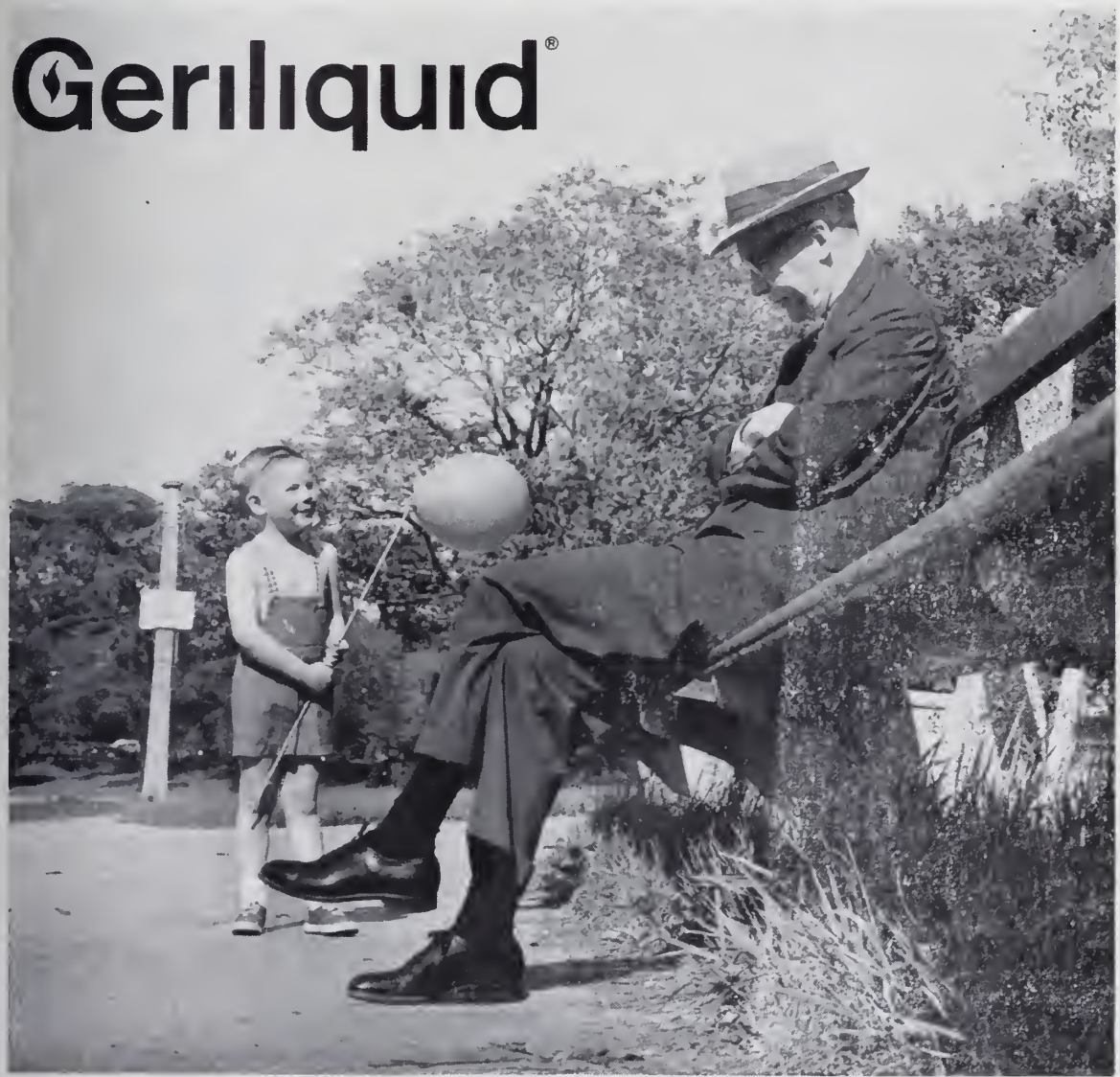
THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215/Weston, Ontario

when even southern sun fails to warm cold hands and feet

provide rapid, sustained vasodilation for warmth and relief of pain, dizziness and faintness in patients with impaired peripheral circulation

GERILIQUID warms cold hands and feet through the thermogenic action of glycine and through sustained vasodilation by glycine and niacin. In addition, in patients with impaired peripheral circulation, GERILIQUID increases the ability to walk farther with less pain. Patients particularly like the palatable, sherry wine base.

Geriliquid®



IN BRIEF: Composition: Each 5 ml. contains: niacin 75 mg. and aminoacetic acid (glycine) 750 mg. in a palatable sherry wine base; alcohol 5%.

Side Effects: Occasional lightheadedness or transient itching which may disappear with continued use. There are no known contraindications; however, caution is advised when there is concomitant administration of a coronary vasodilator.

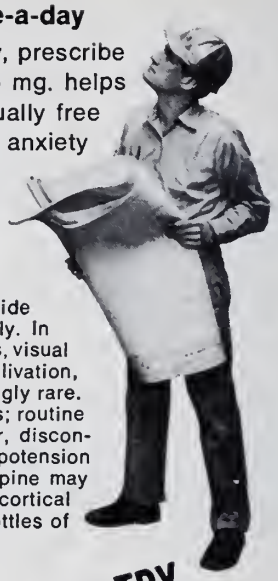
Administration and Dosage: One or two teaspoonfuls 3 times a day before meals. If flushing is objectionable, dosage may be lowered. However, tolerance to flushing usually develops without loss of efficacy in regard to vasodilation.

Supplied: Bottles of 8 oz. and 16 oz.

LAKESIDE LABORATORIES, INC. Milwaukee, Wisconsin 53201

Blueprint for dealing with tension due to stress — Prolixin — once-a-day

For the patient who must be on the job mentally as well as physically, prescribe Prolixin. The prolonged tranquilizing action of as little as one or two mg. helps him cope with tension all day long. Markedly low in toxicity and virtually free from usual sedative effects, Prolixin is effective in controlling both anxiety associated with somatic disorders and anxiety due to environmental or emotional stress. Patient acceptance is good — because Prolixin is low in cost, low in dosage and low in sedative activity. Prescribe Prolixin.



Side Effects, Precautions, Contraindications: As used for anxiety and tension, side effects are unlikely. Reversible extrapyramidal reactions may develop occasionally. In higher doses for psychotic disorders, patients may experience excessive drowsiness, visual blurring, dizziness, insomnia (rare), allergic skin reactions, nausea, anorexia, salivation, edema, perspiration, dry mouth, polyuria, hypotension. Jaundice has been exceedingly rare. Photosensitivity has not been reported. Blood dyscrasias occur with phenothiazines; routine blood counts are recommended. If symptoms of upper respiratory infection occur, discontinue the drug and institute appropriate treatment. Do not use epinephrine for hypotension which may appear in patients on large doses undergoing surgery. Effects of atropine may be potentiated. Do not use with high doses of hypnotics or in patients with subcortical brain damage. Use cautiously in convulsive disorders. **Available:** 1 mg. tablets. Bottles of 50 and 500. For full information, see Product Brief.

WHEN TRANQUILIZATION WITHOUT SEDATION IS DESIRABLE, TRY

PROLIXIN®

THE SQUIBB TRANQUILIZER

SQUIBB FLUPHENAZINE HYDROCHLORIDE

SQUIBB Squibb Quality — the Priceless Ingredient

WHEN MOTHER'S IRON ISN'T UP TO MOTHERHOOD

IN BRIEF: ACTIONS AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency anemia may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion *as a source of iron;* infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (Iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. of elemental iron in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb./100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache, and fever have occasionally been reported. Initial test doses of 0.5 cc. are advisable.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only, it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4; 10 cc. multiple dose vials.

in iron deficiency anemia for rapid and predictable replacement of iron reserves

imferon®

(iron dextran injection)



LAKESIDE LABORATORIES, INC. • Milwaukee, Wisconsin 53201



in any language

serpate®

(RESERPINE)

is the number one, first drug for moderate hypertension

As a first step:

SERPATE® (Reserpine) exerts a gradual, sustained reduction of blood pressure

SERPATE® (Reserpine) relieves anxiety and tension in hypertensive patients with low resistance to everyday crises

SERPATE® (Reserpine) is modestly priced

SERPATE® (Reserpine) in low oral dosage is characterized by a minimum of serious reactions and low-yield side effects—thus, it may be used with comparative assurance

SERPATE® (Reserpine) combines readily with more potent antihypertensives for patients exhibiting severe hypertension

Physician samples and technical data sent on request

(Supplied in doses of 0.1 mg. white tablets and 0.25 mg. yellow tablets)

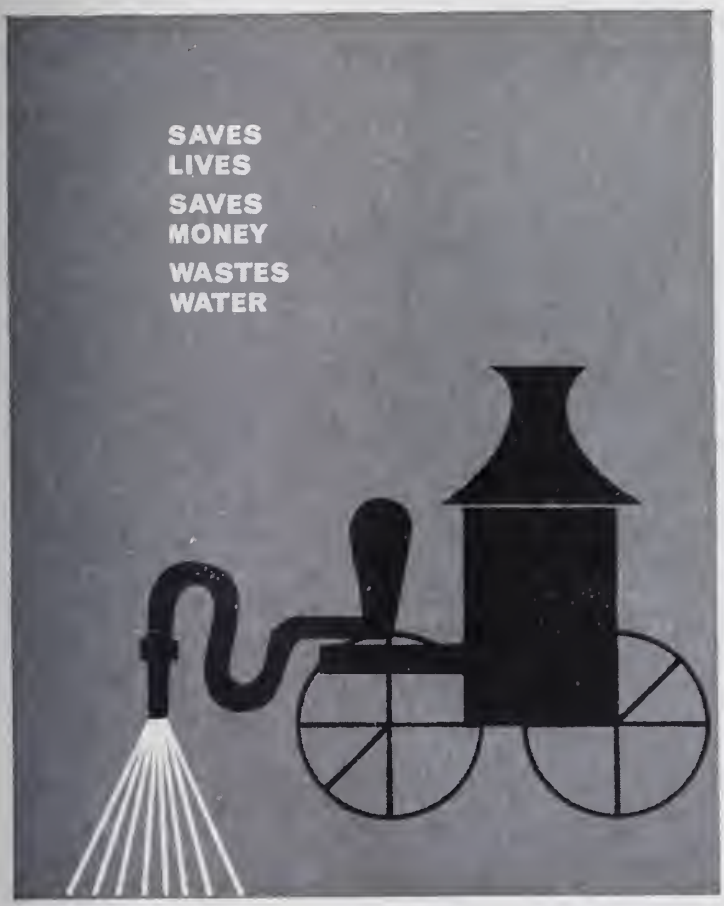
THE VALE CHEMICAL CO., INC.
PHARMACEUTICALS • ALLENTOWN, PENNSYLVANIA

INDICATIONS: moderate hypertension; labile hypertension, particularly when accompanied by tachycardia or neurosis; and as adjunctive therapy to the more powerful hypotensive drugs in severe hypertension.

DOSAGE: The initial dosage of SERPATE® (reserpine) is 0.5 mg. to 1.0 mg. in divided doses daily. Initial dosage should not be continued more than one week. After one week, the recommended daily dosage is 0.1 mg. to 0.25 mg. An occasional patient will require a maintenance dose of 0.5 mg., but if adequate response is not obtained from this dosage it is well to consider adding another hypotensive agent rather than increase the dosage. Reserpine action is cumulative and maximum response may not be observed until several days to two weeks elapse after therapy is initiated. Slight residual effects may persist for several weeks after discontinuation of therapy. Important: Use SERPATE® (reserpine) with caution in patients with history of mental depression, peptic ulcer, or ulcerative colitis. Members of patient's family should be alerted to watch for and report any symptoms of mental depression.

WARNING: Anesthetics have been found to increase the hypotensive effect of reserpine. Caution should be taken to withdraw patients from SERPATE® (reserpine) two weeks prior to administering anesthetics or to elective surgery. Use with caution in gravid patients. Reserpine passes the placental barrier and may affect the newborn.

METAHYDRIN (trichlormethiazide) is prescribed by physicians because it not only approximates the diuretic efficacy of parenteral meralluride injection . . . but, *it is the least expensive of all "brand-name" thiazides.* Therefore, when you prescribe METAHYDRIN (trichlormethiazide) your patients receive the thiazide diuretic that removes a little more salt and water than earlier thiazides, with relatively less loss of potassium . . . and, it's therapy they can more easily afford . . . *only pennies a day.*



METAHYDRIN®
(trichlormethiazide)
oral diuretic

Dosage: One 2 or 4 mg. tablet once or twice daily.

Precautions: As with all effective diuretics, vigorous therapy may produce electrolyte depletion. Patients with severely reduced renal function should be observed carefully since thiazides may be contraindicated. Care should be taken with patients predisposed to diabetes or gout. Patients with a tendency to potassium deficiency, as in hepatic cirrhosis or diarrheal syndromes, or those under therapy with digitalis, ACTH, or certain adrenal steroids, also should be watched carefully.

Side Effects: Nausea, flushing, constipation, skin rash, muscle cramps and gastric discomfort have occasionally been noted; rarely thrombocytopenia and bone marrow depression, photosensitivity, cholestatic jaundice, pancreatitis, perimacular edema, gout and diabetes have been caused by the administration of thiazides.

Contraindications: Complete renal shutdown; rising azotemia or development of hyperkalemia or acidosis in severe renal disease; demonstrated hypersensitivity.

How Supplied: Bottles of 100 and 1000 tablets.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY



An eminent role in medical practice

- Clinicians throughout the world consider meprobamate a therapeutic standard in the management of anxiety and tension.
- The high safety-efficacy ratio of 'Miltown' has been demonstrated by more than a decade of clinical use.

Miltown® (meprobamate)

Indications: 'Miltown' (meprobamate) is effective in relief of anxiety and tension states. Also as adjunctive therapy when anxiety may be a causative or otherwise disturbing factor. Although not a hypnotic, 'Miltown' fosters normal sleep through both its anti-anxiety and muscle-relaxant properties.

Contraindications: Previous allergic or idiosyncratic reactions to meprobamate or meprobamate-containing drugs.

Precautions: Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of pre-existing symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Usual adult dosage: One or two 400 mg. tablets three times daily. Doses above 2400 mg. daily are not recommended.

Supplied: In two strengths: 400 mg. scored tablets and 200 mg. coated tablets.

Before prescribing, consult package circular.

WALLACE LABORATORIES
Cranbury, N.J.

CM-5761

Doctor,

Here is the Abbott anorectic program designed to meet the individual needs of your overweight patients.



mood elevation

Abbott
Anorectic
Program

DESOXYN® Gradumet® (methamphetamine hydrochloride)

Smooth appetite control plus mood elevation.

The obese patient on a diet often has to battle depression as well as overweight. Desoxyn Gradumet helps the dieter in both battles by elevating the mood while it curbs the appetite. Thanks to the Gradumet, medication is smoothly released all-day from a single oral dose.

If she can't take plain amphetamine, put her on DESBUTAL® Gradumet

Calms anxieties; controls compulsive eating.

Desbutal Gradumet provides 2 drugs in 2 tablet sections, combined back to back to form a single tablet. One section contains Desoxyn to curb the appetite and lift the mood; the other contains Nembutal® (pentobarbital) to calm the patient and counteract any excessive stimulation.

Both drugs are released in an effective dosage ratio throughout the day.



controlled release

Abbott
Anorectic
Program

Not all long-release vehicles are the same. Here is why the Gradumet is different and what it means for your overweight patients.



The release action is purely physical and relies on only one factor common to every patient: gastrointestinal fluid. There is no dependence on enteric coatings, enzymes, motility, or an "ideal" ion concentration in the gastrointestinal tract.

Your patients get a measured amount of medication, moment by moment, throughout the day.

They are not subjected to ups and downs of drug release . . . or to erratic release from patient to patient . . . or to erratic release in the same patient from day to day.

That's why the Gradumet provides controlled-release as well as long release.

Perhaps you saw the Gradumet model demonstration which shows that the release is entirely physical. When fluid is added, the drug in the outer ends of the channels dissolves. As fluid penetrates deeper into the channels, there is a continuous release of medication. The rate of release is rigidly controlled by the size and number of channels.

choice of 5 strengths

Abbott
Anorectic
Program

DESOXYN Gradumet
Methamphetamine Hydrochloride in Long-Release Dose Form



5 mg. 10 mg. 15 mg.

DESBUTAL 10 Gradumet
10 mg. Methamphetamine Hydrochloride,
60 mg. Pentobarbital Sodium



Front Side

DESBUTAL 15 Gradumet
15 mg. Methamphetamine Hydrochloride,
90 mg. Pentobarbital Sodium

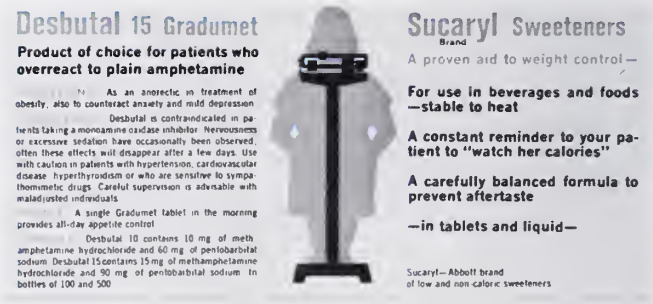


Front Side

samples available



Each sample contains 6 tablets and a filled Sucaryl® Sweetener dispenser. For a supply, write Abbott Laboratories or ask your Abbott man.





economy

Patients, in many cases, save enough to get five weeks of medication for the price of four, compared to other leading long-release anorectics.

CONTRAINDICATION: Desoxyn and Desbutal are contraindicated in patients taking a monoamine oxidase inhibitor.

PRECAUTIONS: Use with caution in patients with hypertension, cardiovascular disease, hyperthyroidism, old age, or those sensitive to sympathomimetic drugs or ephedrine and its derivatives. Careful supervision is advisable with maladjusted individuals.

ABBOTT

Gradumet—long-release dose form, Abbott: U.S. Pat. No. 2,987,445.
Sucaryl—Abbott brand of low and non-caloric sweeteners.

601060

Night Leg Cramps...
Frequent Bedfellow in Diabetes, Arthritis, and Peripheral Vascular Disorders*



*"Nocturnal cramps occurring in the calf muscles and small muscles of the feet have been encountered in a significant number of diabetic patients."[1]

". . . nocturnal cramps may be the presenting symptoms of patients with arteriosclerosis obliterans, deep thrombophlebitis, varicose veins, osteoarthritis . . ."[2]

now...specific therapy for night leg cramps

QUINAMM™

Consistently effective, QUINAMM provided complete relief in 94% of 200 patients studied, many of whom were severe cases refractory to other medication.[3] Your prescription for one tablet at bedtime often controls painful night cramps with the initial dose . . . helps restore restful sleep.

QUINAMM Prescribing Informotion: Composition: quinine sulfate 250 mg. and aminophylline 200 mg. per tablet. **Precoutions:** aminophylline may praduce intestinol cramps in some instonces, and quinine may praduce symptoms af cinchonism such as tinnitus, dizziness, and gostrointestinol disturbonce. Discantinue if ringing in the ears, deafness, skin rash ar visual disturbances accur. Since Quinomm contoins quinine sulfote, caution shauld be observed regarding administrotian during pregnancy. Dosoge: 1 tablet three or four times daily. For nacturnol leg cromps, 1 tablet on retiring.

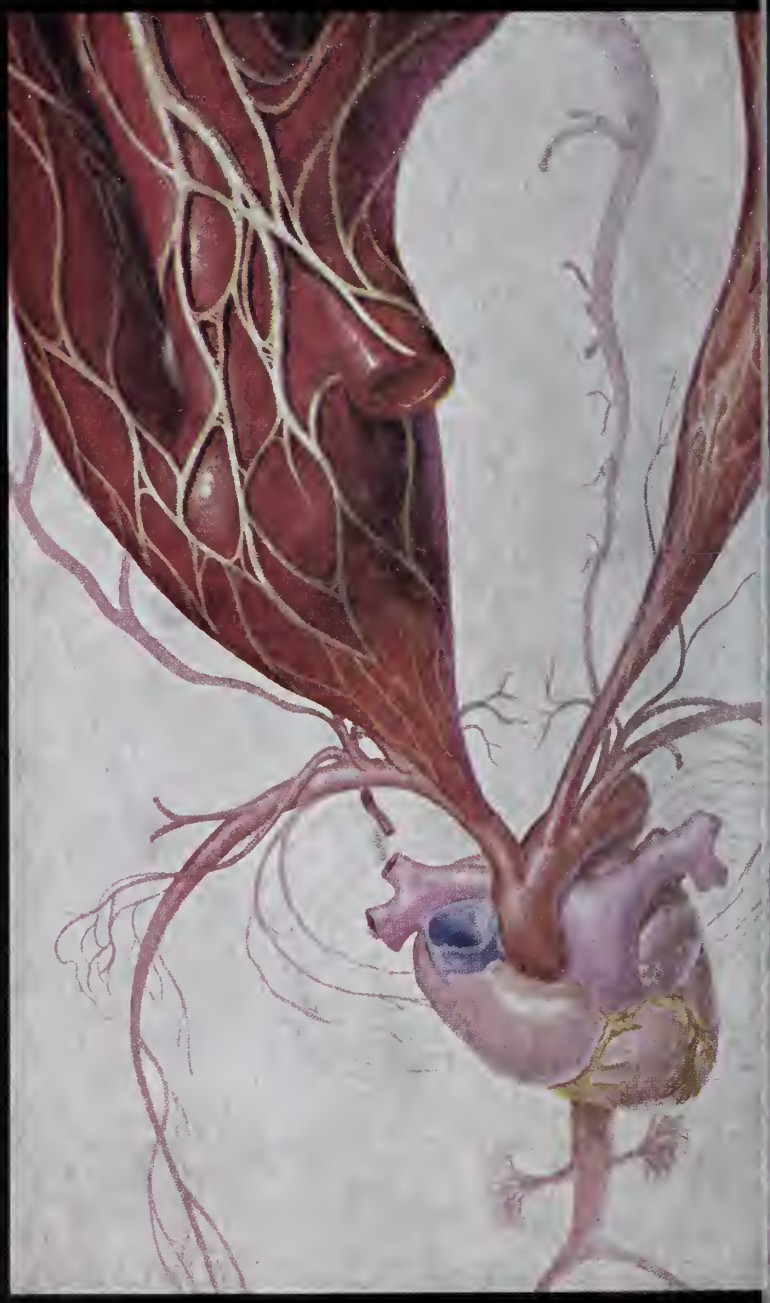
References: 1. Shumon, C.: Am. J. Med. Sci., 225:54, 1953. 2. Perchuck, E., et ol.: Angiology, 12:102, 1961. 3. Rowls, W., et ol.: Med. Times, 87:818, 1959.

WALKER *Laboratories* Division of Richardson-Merrell Inc. Mt. Vernon, New York 10551

A Key Site of Action of the Protoveratrine A in Salutensin

"The main function of the carotid sinus is regulation of the blood pressure...."[1]

The veratrum component of Salutensin acts here (and in the myocardium), initiating "...a reflex fall in blood pressure through a generalized vasodilation and fall in heart rate."[2]



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This is a logical Blood Pressure Regulator

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Available: Prescription-size bottles of 60 tablets.

References: 1. Editorial: JAMA *191*:592 (Feb. 15) 1965. 2. Meilman, E., in Moyer, J.H.: Hypertension, Philadelphia, W. B. Saunders Company, 1959, p. 395.

BRISTOL THERAPEUTIC SUMMARY
For complete information consult Official Package Circular.
Indications: Essential hypertension.
Warnings: Small-bowel lesions (obstruction, hemorrhage, perforation) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs.
Contraindications: Salutensin is contraindicated in severe depression.
Precautions: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss, which may cause digitalis intoxication, responds to potassium-rich foods, potassium chloride or, if necessary, stopping therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy two weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution with patients with peptic ulcers or renal insufficiency (if severe, Salutensin is contraindicated).
Side Effects: Hydroflumethiazide: Purpura plus or minus thrombocytopenia, hyperuricemia, leukopenia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. *Reserpine:* Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth and, with overdosage, agitation, insomnia and nightmares. *Protoveratrine A:* Nausea, vomiting, cardiac arrhythmia, prostration, excessive hypotension and bradycardia. (Treat bradycardia with atropine and hypotension with vasopressors.)
Usual Dose: 1 tablet *b.i.d.*

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Contraindications: Benactyzine hydrochloride is contraindicated in glaucoma. Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use.

Precautions: *Meprobamate*—Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of preexisting symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Side effects associated with recommended doses of 'Deprol' have been infrequent and usually easily controlled. These have included drowsiness and occasional dizziness, headache, infrequent skin rash, dryness of mouth, gastrointestinal symptoms, paresthesias, rare instances of syncope, and one case each of severe nervousness, loss of power of concentration, and withdrawal reaction (status epilepticus) after sudden discontinuation of excessive dosage.

Benactyzine hydrochloride—Benactyzine hydrochloride, particularly in high dosage, may produce dizziness, thought-blocking, a sense of depersonalization, aggravation of anxiety or disturbance of sleep patterns, and a subjective feeling of muscle relaxation, as well as anticholinergic effects such as blurred vision, dryness of mouth, or failure of visual accommodation. Other reported side effects have included gastric distress, allergic response, ataxia, and euphoria.

Meprobamate—Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Dosage: Usual starting dose, one tablet three or four times daily. May be increased gradually to six tablets daily and gradually reduced to maintenance levels upon establishment of relief. Doses above six tablets daily are not recommended even though higher doses have been used by some clinicians to control depression and in chronic psychotic patients.

Supplied: Light-pink, scored tablets, each containing meprobamate 400 mg. and benactyzine hydrochloride 1 mg.
Before prescribing, consult package circular.

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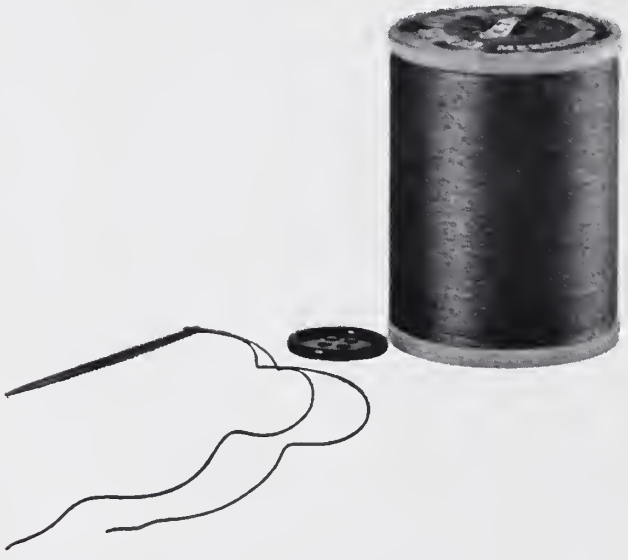
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Precautions: BAMADEX SEQUELS should be given only under close supervision to patients hypersensitive to sympathomimetic drugs, with cardiovascular or coronary disease or who are severely hypertensive; to emotionally unstable persons and to epileptics. Patients should be cautioned not to drink alcoholic beverages while on the drug, and not to drive vehicles if they become drowsy. In all patients kept on the drug for long periods, the drug should be withdrawn gradually to avoid possible serious reactions.

Contraindications: Hyperexcitability, agitated prepsychotic states and a history of previous reactions to meprobamate.

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IN BRIEF:

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Dosage: One or two tablets, one-half hour before bedtime.

Indications: For night-time sedation and refreshing sleep up to eight hours.

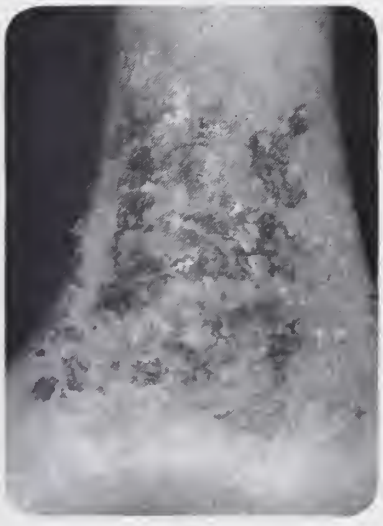
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The Virginia
MEDICAL MONTHLY

March, 1966
Vol. 93, No. 3
Whole No. 1366

Guest Editorial . . . .

The First Schizophrenic

UPON ENTERING the psychiatric wards a medical student encounters a new phase of his education. Here there are no enzymes to measure, no lesions to dissect away, for the mind is a most elusive organ and does not secrete thoughts as the liver bile. Armed, and sometimes encumbered, by the prejudices of his education the student is asked to evaluate the irrational and to force logic on facts when it is often the facts themselves that create logic.

Our first patient was a student. His memory was intact and his sensorium clear, yet he was trembling. He felt he had a "problem". He stuttered frequently during the interview and could not keep to the point of any discussion. He could not define his "problem" but felt that the world was crumbling around him, and that he was failing in school because he could not concentrate. He obliquely noticed our every gesture, and when we looked to the window for a moment he sobbed violently that we did not care for him and that he needed help.

At every interview we attempted to balance detachment, understanding and support, so that he came to confide and trust in us. He decided that he wanted to become a physician and marry a nurse. He enjoyed the ward and did not want to leave, even for an afternoon's outing. He yearned for independence yet would not accept it.

His mood changed from hour to hour and from day to day. At times he was in great anguish, sweated profusely and contemplated death. Everything seemed sad to him and he felt "torn apart". At other times he found situations and objects humorous and, with his mind, could animate copper and even give wit to brass.

He became excessively dependent upon everyone and we came to discover that he had never had a close or lasting relationship in his life. He had never dated a girl and what he felt towards any woman was slightly

less than friendship and much less than love. He felt sexually inadequate and much of his behavior on the ward was directed to his giving proof of his masculinity. He was attracted to men, yet repulsed by the idea. He pasted pictures of actors on his wall and his conversation often centered upon his "unnatural" worship of Priapus.

He felt that his parents had neglected him and gave excessive love to his older brother whom he envied. When his parents came to see him he cried because his mother had come "for the operation". What operation? "She has come to castrate me."

Interviews with his parents revealed a chaotic home situation. His parents had had a somewhat abnormal relationship since their marriage. His mother read the Bible often and sinned just as frequently. She spoke irrationally at times and observers felt that she indeed had a severe mental illness.

We obtained copies of themes which the patient had written as a child in school. They demonstrated frequent neologisms, and a lack of continuity of ideas. They were almost nightmarish in quality. Evidently he had had his "problem" for many years although it had precipitated now because he had failed an important examination and was in financial difficulty.

We asked him to draw several pictures. In his drawing of "girl" he drew a figure typical of one suffering from his disease. The "girl" had no facial features, the hands were distorted, and the shoulder slanted abnormally.

What to do? He had no money and thus could not afford the luxury of grief. We were forced to send him to his home state mental hospital, large and understaffed, where he would languish in an untherapeutic milieu and receive phenothiazine drugs.

We learned much about the schizophrenic reaction from this patient and from our studies. Schizophrenia is not a disease, it is a syndrome with many causes. Perhaps, as suggested by Stevenson, it is a psychosomatic disorder in which the brain is the end organ involved. We learned that approximately 25% of schizophrenics will remit almost entirely, 25% will remit enough so as to function fairly well, 25% will have a severe, permanent personality disorder, and 25% will stagnate or progressively worsen. Drugs will improve the symptoms, but remission is rare unless the patient is sent to a specialized hospital with a high staff-patient ratio. What will happen to our first schizophrenic? Only time will tell, but there seems to be no cause for optimism.

ARMANDO FAVAZZA

Editor's Note: Mr. Favazza is a student at the University of Virginia.

Medicare Is Fedicare

JOHN P. LYNCH, M.D.
Richmond, Virginia

The cynical "Pie in the Sky" politicians who (in return for votes) promise everything for nothing and their greed-motivated constituents who believe in something for nothing have achieved a major take over of medicine by government—Medicare. Many will probably live to regret what they have done but it is unlikely that the trend can be reversed.

THE MEDICAL PROFESSION has been opposed to medicare or fedicare* from its inception on two fundamental grounds—its implied ideology on the one hand and its practical application on the other. We are not opposed to it because we would be hurt financially, when in fact more money would come to us as vendors of the priceless commodity of the good health of our citizens. We are opposed because this system would just not work.

Let us look for a moment at the ideological aspects of this system of health coverage. Lenin, the architect of the communist world, once stated, "When the present independent structure of medicine is destroyed, the nationalization of the rest of the people is easy." Lenin proved his point by the establishment of communism which is very much of a going concern today as no one can doubt. If the American people want to encourage this dogma in the United States, this is a good beginning and Khrushchev will have shovelled his first load of dirt to bury us. I would not insult your intelligence by relating how this first stage of socialized medicine can only lead to further steps to include all people of all ages and of all economic levels, so that finally we will have in fact state medicine.

The fundamental difference in approach between the politicians' view of medicine and that of the doctor can plainly be stated as follows: The average politician sees the problem in the form of statistics of the masses, namely the voter and his votes. The doctor on the other hand views the medical problems of the country in terms of what he considers to be the best interest of his patient and his particular illness. We have a deep empathy for the sick person, whether he be white or black, rich or poor. Traditionally we have always looked after the sick, the weak, the demented, frequently without regard for remuneration, frequently at considerable financial sacrifice. I can truthfully say that in Virginia no one needs to suffer for want of medical care because of lack of funds. This is true now before medicare, but there is considerable doubt in our minds that this state of affairs will continue after the inauguration of medicare. We just don't have the personnel or the facilities to dispense this wonderful blessing to those who eventually will not value it for what it is because it is freely dispensed by a profligate government. The medical profession has supported the Kerr Mills legislation and I testified before committees of the General Assembly for this bill. I believe that this will answer the problem for those who need help and we are not interested in those who do not.

United States Congressman John E. Fo-

Read before the Montgomery Medical Society, May 13, 1965.

*The word "Fedicare" was coined by Charles G. Smith, M.D., Arlington.

garty, in criticizing medicare, recently stated that, "Everyone of America's eighteen million persons over 65 has a right to resent the Federal Government announcing that 'the independence, dignity, and usefulness of our older Americans will hereafter be regarded as welfare problems.' This is contrary to everything that has been researched to change the image of aging from a sickly indigent individual to a dignified responsible person. The welfare setting has wiped out most of the social progress that was made in the field of aging." The American concept of what is right and good and dignified and decent has undergone such a change we are sorry for it. Joseph de Maitre in 1811 wrote, "Every country has the Government it deserves." Does America deserve this? I would not like to believe this and if we do, let us hope that it will not be for long.

Thomas Jefferson once remarked that "the Whole of Government consists in the art of being honest." We have documented evidence that our Government has not been honest with regard to the economic condition of American families. A recent survey conducted by the Michigan Research Center "proves that the proposed program of nationalized health care for the elderly would be an intolerably unfair burden of the wage earners by forcing them to pay for the health care bills for the aged, the vast majority of whom are well able to take care of themselves."

In releasing the results of this survey, Dr. Fister, President of the American Medical Association, stated: "The median value of total assets held by families whose head is over 65 years was $8,349 in 1960, nearly twice the median value ($4,839) of total assets of all other age groups.

"The median value of equity in homes for over-65 families was $4,559, nearly four and a half times the $1,028 reported for younger families.

"The median value of liquid assets for over-65 families ($1,012) was nearly two and a half times the $460 for younger families.

"Total assets valued at $5,000 or more were held by 63 per cent of over-65 families, as against 47 per cent of all other families. For assets valued at more than $10,000, the figures are 41 per cent and 27 per cent respectively, and for assets exceeding $25,000, they are 18 and 9 per cent.

"Only 4 per cent of the over-65 families had any debts at all to hospitals, physicians, and dentists, as against 10 per cent of the younger families."

Dr. Fister also said that it is misleading to use income alone as a test of economic condition "when it ignores the substantial tax relief given those over 65 through double income-tax exemptions, retirement income credit, full medical expense deductions, and exemptions of benefits from social security, railroad retirement, and other pensions, annuities and dividends, as well as size of family and other factors."

He termed "the push for Federalized health" care of the aged "a fraud being perpetrated for political purposes."

The health of a people has through the ages been closely related to its religious beliefs. The first hospitals in the world were founded by the devotees of ancient religious orders and the first Christian hospitals were instituted on the Isle of Malta. Christ is referred to as the Great Physician. The Christian Church has considered one of its most important missions the care of the sick and has spread its healing gospel through medical missions to the uttermost parts of the earth. Thus any government which tries to take over the health services of a society will not be long in beginning to take over its religion as well. Already we hear rumors of our government's plan to prohibit income deduction for charitable purposes. This will spell the end of the power of religion in our beloved country. Can any truly dedicated American not be alarmed along with the medical profession at what is happening to us under our very eyes? How far are we

from the state of Nazi Germany before the rise of Hitler? You may say that this is the imagination of an alarmist, but aren't you, too, alarmed, or are we content to become complacent until it is too late? With few exceptions—our Virginia delegation is a noble exception—Congress has become a rubber stamp to the expensive whim of an all powerful administration.

"When the present independent structure of medicine is destroyed the nationalization of the rest of the people is easy." This is indeed sad to contemplate in the United States of America. God grant that it will not reach this unhappy state.

Now let me share with you some of our fears for the practical aspects of Medicare as it has been proposed.

Our hospitals are already crowded with patients who need medical attention and who, for the most part regardless of their ability to pay, receive the best medical care in the world because it is free enterprise care. The fees that those who are able to pay act as a deterrent against the over-use or misuse of medical facilities which will always be one of the valuable commodities of life. If this slight deterrent is removed, hospitals and doctors' offices will be flooded with people who have little to do on Tuesday but go to the doctor's office or in the month of January but to enter the hospital for a pleasant luxurious stay.

We are told that in England the average patient sees his doctor in his office chair for two and a half minutes while three months is the average waiting time for elective admission to a government hospital.

In the April 14 edition of the Wall Street Journal the following appeared: "Britain's government-run National Health Service is facing the worst crisis of its 17-year history.

Three-quarters of Britain's 23,000 family doctors have threatened to quit the NHS if their demands for better pay and other benefits aren't met by July 1. Conditions in several of the nation's aging, understaffed hospitals have so deteriorated that surgeons are refusing to perform operations in them. Angry charges of profiteering against drug manufacturers in Britain, many of them American-controlled, have culminated in a formal inquiry into relations between NHS and the pharmaceutical industry.

Money is at the root of all these problems. Declares Dr. George Little, a London physician: "The country has got to say to itself, 'Can we afford a health service of the kind we want?' "

"Many here are beginning to question whether Britain, or any nation, has the resources to offer free or nearly free medical and dental care to all comers and still maintain high professional standards. John Cronin, a surgeon and a Labor member of Parliament, believes the NHS is "crumbling to utter ruin."

The problems of the nation's 3,100 hospitals, almost all of which are run by the NHS, are especially dramatic. Although capital spending on hospitals for the fiscal year ending next March 31 will total $190.4 million, up from $57.2 million four years ago, only five new hospitals have been completed since before World War II. Two-thirds of the hospitals in England were built before 1891. Waits of over six months for non-emergency operations are common.

In rural and industrial areas where doctors are scarce, many have to cope with the legal maximum "list" of 3,500 NHS patients. Since doctors are paid an annual fee for each patient on their lists, this increases their income, but it can also rule out anything but the most superficial medicine. A general practitioner in Sunderland, near Newcastle, complains that sometimes he has to see as many as twenty-three patients an hour at his office. Conscientious doctors find that efforts to keep track of new medical developments often extend their working days to sixteen hours."

But you may say: "Don't the doctors control admission to the hospital and to an extent the numbers he can see in his office?" They do today, but they won't if we have

state medicine. A local politician may very likely call a doctor and recommend that a certain patient be admitted willy-nilly. If the doctor refuses, this hospital can be dropped from the approved list and the doctor's license could be jeopardized. If some here think this is far-fetched, consider the doctors' strike in Canada, Brussels, Italy, and Mexico. Any third party interposed between the doctor and his patient automatically sets up a climate where these dangers to the good health of a people can easily and almost automatically occur.

I think you will agree with me that doctors in this country will never strike against patients, but there may be a temptation to balk at an unreasonable, impractical and wasteful system.

With this regulation will come proscription of the type of drugs doctors will be allowed to give their patients, at first on a purely cost economy basis, but later on, a health commissar will decide that penicillin must be used for pneumonia, that aspirin be used for pain, or even that alka-seltzer must be used for that well-known upset "stomach."

Decisions about the length of stay for various illnesses will be standardized so that a patient will be discharged if he has used up his ten days for the treatment of pneumonia or his three weeks for a heart attack. On the other hand the long illness of many of our 65-year and older citizens would flood our hospitals with long term cases because the government pays for it when their illness could more efficiently be managed in the much less expensive facility of a nursing home. Politicians would then be practicing medicine and the doctor relegated to the status of a subservient technician. What could be more devastating to you as a patient or to me as a doctor.

I am sure that all of you here feel that you are interested in our patients as persons as well as being skilled in our ability to relieve their diseases. Would you want this relationship disturbed by a disinterested political mechanism which would be forced to treat you as a statistic and your disease as a commodity to be bought and sold over the counter of bureaucracy?

For over fifteen years we have been trying to awaken the country to these dangers. We have failed. As all good physicians do in fighting a seemingly incurable disease, we will continue to offer what relief we can to our suffering patients and to our sick body politic.

Ominously enough, Representative John D. Dingell (D.-Mich.) has quietly introduced HR 5438—an across the board plan for national health insurance covering all ages. The same type legislation was originally sponsored by Representative Dingell's late father, in collaboration with Senators Robert Wagner and James Murray (Mont.).

Our only hope and prayer is that eventually after more foreseeable suffering recovery will occur. Why can't we profit by Britain's experience in their National Health System which has produced a failure in medical care and a deterioration in professional standards? Or you might talk to a young surgeon who has recently returned from his work with the armed forces in Germany as I did. He states that dependents who receive free medical care stop at the PX, the post office, and then having little to do, stop in at the dispensary where the overworked doctor can listen to some trivial complaint merely because he is available. He tells me that after seeing twenty or thirty unessential patients, he not infrequently becomes so hacked that there is real danger of overlooking a real medical problem. The armed forces doctors are fine men and competent, but the system dulls their professional interest. This is but a foretaste of what medicare would be on a vast scale in these United States.

Yes, we may have to accept political medicine but we will continue to point out to our fellow citizens that it is against their best medical and health interest, and one bright day they will turn to their doctor

and say, "We have had enough. What can we do to get good medical care again?"

I agree that you have a right to say, "But, Doctor, you have argued, perhaps not too eloquently, your objections to medicare, but what do you offer from a practical point of view to the solution of the problem for those who still find themselves unable to afford good medical care?" To this I would answer that the American Medical Association has sponsored Eldercare through the Herlong Curles Bill, HR 3727, which I regret to say has not been given fair consideration.

The Eldercare program would encourage the use of voluntary health insurance, or prepayment plans, in the implementation of Kerr-Mills programs, permit the state to have a health-oriented agency supervise or administer the program, provide for the use of an income information statement as the sole eligibility test of need, and provide a wide spectrum of medical, surgical and hospital benefits with sliding-scale eligibility. This means that a citizen 65 or over would pay all, part or none of the cost of the prepayment policy—depending on his income.

The above principles are incorporated in the Eldercare Act of 1965, introduced by Representative A. Sydney Herlong, Jr. (D.-Fla.) and Thomas B. Curtis (R.-Mo.). The bill would amend the Kerr-Mills law to authorize broad health insurance coverage for elderly persons. It would authorize federal grants to the states on a matching basis to help persons 65 years of age and older pay the costs of the health insurance or prepayment policy if they could not afford it otherwise. The bill would provide for utilization of Blue Shield and Blue Cross plans and private health insurance companies.

The cost of such coverage would be borne entirely by government for those elderly individuals whose income falls below limits set by each state. For individuals with incomes between the minimum and a maximum, government would pay a part of the cost on a sliding-scale according to income. Individuals with income above the maximum would pay the entire cost, but they would have the benefit of an income tax deduction for such payments.

Persons under 65 years of age also would be given income tax deductions for the amount of premiums paid on health insurance policies for elderly relatives.

Thus, the physicians of the country now as always have offered a plan for those who need medical care which is modern, realistic and workable. We shall continue to oppose any plan which is centralized, socialistic, and therefore unworkable, although it may be forced upon us under the banner of the administration's so-called Great Society. The public may have to learn by bitter experience that physicians know more about the practice of medicine than the majority of politicians.

Editor's Note: Dr. Lynch is chairman of The Medical Society of Virginia Committee on the Aging and Chronically Ill.

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The Ex-Patient Social Club

An Activity Sponsored by the Local Virginia Mental Health Association

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For several years the Ex-Patient Social Club has been an active organization in Charlottesville. This group, and others like it, are assisting in the social rehabilitation of the mentally ill as they return to the community after discharge from the hospital.

OVER THE CENTURIES initiation into a group, or church sect, has had the results of improving the initiates sense of well being, has enabled him to solve his sense of isolation and estrangement by renewed sense of belonging. In English speaking countries social psychiatry has attempted to utilize this fact of man's necessary gregarious instinct by the thoughtful development of planned therapeutic milieu, group psychotherapy, and social clubs.

Social psychiatry has been termed by many psychiatric historians as the Third Psychiatric Revolution, as significant in scope with the advent of Moral Treatment and Depth Psychology, acknowledged by most as the First and Second Psychiatric Revolutions. This Third Revolution can be symbolized by the famed Tavistock Clinic in London, world known for its development of individual depth psychology and psychoanalysis, recently changing its clinical policy of individual therapy to treating most of its patients in groups of eight or ten individuals.

England developed pioneers in social psychiatry—Maxwell Jones, Joshua Bierer, and others — such that today England remains the most fully evolved as far as the use of milieu and social clubs concerned with the rehabilitation of the mentally ill.

In the United States, Abraham A. Low, M. D., formerly Assistant Director of the Psychiatric Institute of the University of Illinois Medical School, founded the now world famous Recovery, Inc., November 7, 1937. Between 1937 and 1940 Recovery, Inc., limited its services to in-patients admitted to the Institute. In 1940 Recovery, Inc., expanded its work to include psychoneurotic patients of the out-patient department. In 1941 the group severed its relationship with the Psychiatric Institute and established independent facilities of its own. After 1942 the bulk of its membership was recruited from Dr. Low's private practice.

The object of Recovery, Inc., is to save time for the physician, money for the patient, help prevent recurrences of the more severe psychotic disorders, and forestall chronicity in psychoneurotic conditions. Recovery, Inc., patients are encouraged to give up hysterical-defeatism language and behavior when they are discharged from the mental hospital. Patients are required to attend three group meetings each week for six months after joining the organization. Spontaneous social activities among members are encouraged and members acquire new sets of friends that may last a lifetime.

Individual visits to the psychiatrist can be grossly reduced. In 1947 the average patient made a total of twelve 15-minute visits over

a six month period. The average patient was seen individually once a week during the first month, once in two weeks the second month, and once monthly afterwards if the symptoms were significantly reduced.

Much like Alcoholics Anonymous the movement has spread across the United States so that many communities have their local Recovery, Inc., Chapter.

The Setting of Charlottesville, Albemarle County, in 1961

A Department of Neurology and Psychiatry was founded by David C. Wilson in 1937. Dr. Wilson directed a treatment program for psychiatric in-patients and out-patients that was eclectic in emphasis making use of all modalities of therapy that might help the psychiatric patient. Dr. Wilson did not stress group therapy, however, and focused on the individual patient and his contact with the physician.

In the year 1961 Dr. Wilson left the University of Virginia and was replaced by Dr. Ian Stevenson as Chairman of the Department of Neurology and Psychiatry. Dr. Stevenson stressed the study of English Psychiatry and encouraged a number of staff psychiatrists to visit England and study its social psychiatry. As a consequence it was gradually realized by some of the faculty members of the Department of Neurology and Psychiatry that the traditional one-to-one patient-physician relationship could not answer the needs of the mental patients. Many patients could not afford the twenty dollars per hour weekly visit to the psychiatrist. If they were sent to the Mental Health Clinic many of them could be seen only at monthly intervals, often times by a different medical student each month. Psychotherapy in its conventional sense became an impossibility.

Fortunately, in the 1950's the Department of Neurology and Psychiatry enlarged its Residency Staff. Many financially handicapped individuals were thus able to be treated in individual psychotherapy once or even twice weekly for a minimal fee. However this represented only a very small percentage of the patients presenting themselves to the Department for treatment.

Taking into full consideration our inability to adequately provide individual psychotherapy, and following the example of Low, Moreno, Jones, and Bierer, some of the Faculty and Residency Staff decided to stress group approaches to psychotherapy, and to establish a social club in Charlottesville to facilitate the treatment of socially isolated patients, whether they were in individual psychotherapy or not.

The Charlottesville-Albemarle Mental Health Association—1961

The Charlottesville-Albemarle Mental Health Association has had a long illustrious history and is one of the chapters of a vigorous state-wide Mental Health Association. In 1961 the local chapter was sponsoring volunteer services to in-patients at the University of Virginia Hospital's Davis Wards and Western State Hospital. These volunteers were seen as auxiliary aides to the therapy of the mentally ill. But it would be stretching the concept very broadly if the volunteers were to be considered as providing an integral part of the patients' rehabilitation into the community. When the patients left the State Hospital or the University Hospital often times the volunteers would break the contact with the patient.

As a result of the rather unimportant place of the psychiatric volunteer in the total treatment plan extending into the community, the local Mental Health Association functioned along smoothly, but lacked the vitality and enthusiasm of a vigorous youthful growing organization.

In an attempt to offer a challenge, with the purpose of revitalizing the Charlottesville Mental Health Association, it was proposed to this local chapter that it sponsor a community social club in cooperation with the Department of Neurology and Psychiatry and the Hospital Volunteers.

Initial Organization

An organizing body of the University Hospital Chaplain, his wife, several hospital volunteers, and three psychiatrists from the Department of Neurology and Psychiatry drew up the initial plans of operation.

It was decided the social group should be for the chronic psychiatric patient with few or no social ties in the Charlottesville community. Two groups of these patients were formed. Each group was conducted by one of the psychiatrists between the hours of 4:00 and 5:30 p.m. At 6:00 p.m. a pot-luck supper was provided by the Chaplain and his wife together with the hospital volunteers. Gradually the patients helped in the preparation of this meal. The group meetings and the suppers were held in the Children's Rehabilitation Center with the permission of its Director, Dr. Gerald Hammond.

All patients in the groups were encouraged to stay for the dinner hour and one of the psychiatrists remained for the evening activities with the patients. This gradually established the social club as having the backing of the psychiatric medical staff.

Eventually the initial group therapy was stopped. The place of meeting was changed to the Charlottesville Unitarian Church because of its better eating and social facilities. The backing of the psychiatric staff continued with a physician being present most of the time—but not always.

It is the feeling of the individuals initiating this new venture that it could not have been achieved without the full cooperation of the physicians, the volunteers, and the Charlottesville-Albemarle County Mental Health Association.

Perhaps the mainstay of the organization has been one dedicated volunteer who, rain or shine, has been present at most weekly meetings, and has spent many hours each week on the telephone conversing with troubled patients.

The social club has met formally once weekly for the past three years. A pot-luck supper continues to be the most permanent feature of the club. Eating together seems to promote informality, friendliness, willingness to share and become intimate. Today, the patients take the largest share of the responsibility in food preparation. Each member contributes 50c weekly, if this is possible, towards providing the food. This is done because some individuals do not have cooking facilities to provide their fair share of the food.

Social Club Activities

The headquarters of the club continues to be the Unitarian Church, although meetings are now held at individual members' homes, swimming pools, and volunteers' homes.

Activities remain informal and varied. There is no didactic approach as in Recovery, Inc. For example, after supper one evening in the church some members may get together for bridge, some may engage in community singing, and some others may go bowling. One evening the whole group might go together to a good movie. Friends of the patients are welcome as are family members, spouses and children.

The whole group is very informal; volunteers and patients are indistinguishable from one another. Although just one night a week is scheduled, members get together during other nights of the week for conversation and social activities together. They constantly phone each other.

Perhaps one reason why a didactic approach is not needed here is that many of these patients remain in individual psychotherapy and get instruction from their physician concerning their illness. This allows our social club to take on a purely informal social function where psychiatry defenses, unconscious, etc., may be joked about but never discussed seriously. In a setting with less professional help available more therapy and education would probably have to be provided by the social club following the example of Recovery, Inc.

Examples of a Couple Benefiting from the Social Club

Mr. and Mrs. W. W. arrived in Charlottesville from another state having no friends or relatives in Virginia. Soon both husband and wife were in psychotherapy. The husband suffered from "a borderline personality" with severe depression, inadequacy, hypochondriasis, and job dissatisfaction. The wife was overbearing, threatening divorce, unhappy and angry about her husband's nervous symptoms. Both were referred to the social club where they soon took an active part in the club. They helped provide food and participated in many activities both at the weekly meeting and informally with club members at other times in the week. Although they attended church the friends this couple acquired were largely from the social club. The husband gradually lost his symptoms, the wife became quieter and more content, and finally they left town for their home state where the husband had a much better job opportunity. According to last reports the couple is doing very well in their new home.

Although many club members have "graduated", left the club, and even the community, many of the more chronic patients, depressives, schizophrenics, are still members of the club and are not due to graduate in the near future.

Although formal statistics have not been kept the general feeling among volunteers, psychiatrists and patients is that the social club does provide a definite need in the community and its continued existence seems assured.

Summary

Three years ago the Charlottesville-Albemarle County Mental Health Association started a social club to facilitate the social rehabilitation of mentally ill individuals who had been, or were continuing, under the care of Western State Hospital physicians or psychiatrists, psychologists and social workers from the University of Virginia Hospital. Patients were introduced to the social club who were socially isolated with few or no relationships with family or friends in the local Charlottesville community. Patients who had come to Charlottesville especially for psychiatric treatment who knew few people locally were referred to the social club.

Volunteers from the University of Virginia "Pink Ladies" were chosen to organize and develop the social club. Weekly meetings were held throughout the year with a "pot-luck" supper and a variety of social activities following the supper. The meetings were held at the Charlottesville Unitarian Church which was sympathetic to the problem of the social rehabilitation of the mentally ill.

After three years the social club has grown and developed a continuous progressive spirit of its own. Recovered mental patients have gradually assumed more responsibility as far as club leadership is concerned relieving the volunteers. The Charlottesville-Albemarle Mental Health Association rallied around its social club and grew to understand in fuller dimension the variety of problems facing the mental patient returning to the community.

In light of the experience of the Charlottesville-Albemarle County Mental Health Association it is proposed that a social club can help patients return to the community and can help mental health associations find a more direct way of helping patients than they have been able to do to date in many Virginia counties.

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Surgical Aspects of Salmonella Infections

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SALMONELLA INFECTIONS have been reported in increasing numbers throughout this country, but the Richmond area, until recently, has been relatively free from this condition. According to Bowner[1] the reported cases in the United States rose from 723 in 1945 to 9,680 in 1962. Fifty-three hospital outbreaks attributed to one type of salmonella occurred during a six months' period in 1963.[2] The incidence in Virginia increased from 126 in 1958 to 364 in 1963.[3]

It is ironical that the best known and most formidable serotypes of the salmonella family, those responsible for typhoid fever and paratyphoid A and B, have been largely curbed by public health measures while the lesser known strains have come to the fore in recent years and present the major health hazard at this time.

Over 700 varieties have been identified.[3] In order to differentiate the various species, they have been named after the countries, states, counties, cities and even hamlets where strains have been isolated. It is gratifying to know that one fairly widespread variety has been named for the Commonwealth of Virginia.

The intensity of the infection may vary from a transient, self-limited gastro-enteritis, frequently diagnosed as food poisoning, to a more severe and protracted enteritis or even to a fulminating septicemia with pyogenic manifestations including lung abscess, pneumonia and meningitis. The chief sources of human infection in this country are livestock and domestic animals.

Carrier states similar to those encountered in typhoid infections probably explain the appearance of salmonella in this area. The overall mortality in reported series is about five percent. In heavily infested areas abroad several types of salmonella may be isolated from one patient.

The organisms are usually found in the stools but in the more severe infections associated with septicemia, salmonella are readily recovered from the blood and urine. At autopsy the organisms have been found in virtually all tissues of the body. Carriers harbor the organisms in the bile or bowel. The infection is usually transmitted by food handlers through the media of food and water. Chickens and eggs are frequent sources of infection while rats, mice and even cock-roaches have been incriminated. Pet turtles have been found to spread this infection.

American physicians participating in the Korean War saw many cases of this disease among Koreans and Chinese.[4] Zimmerman[5] reported a large number of perforated ulcers of the ileum among North Korean prisoners. These occur earlier in the course of the illness than is true in typhoid fever and many deny having any gastro-intestinal symptoms prior to actual perforation. Massive hemorrhage rarely occurs. The ulcers extend deeply between the folds of the mucous membrane of the distal ileum. They differ from typhoid ulcers in that Peyer's patches are not involved and the ulcerations are situated in the transverse axis of the bowel.

Zimmerman[6] reported excellent results in salmonella infections when treated by chloramphenicol and terramycin: Chlortetracycline and kanamycin have been recommended in recent years. Later reports have raised doubt concerning the efficacy of these latter drugs.

About two years ago, within a period of three months, two patients were admitted

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to Richmond hospitals who showed surgical manifestations of salmonella infections. Their stories, in brief, were as follows:

R.C.G., (Richmond Memorial Hospital No. 123,597) a well developed, 38 year old white male, was admitted on August 21, 1961, by his family physician, Dr. Theodore Kohn, after a two-day history of diarrhea, fever, abdominal cramps, prostration and the passage of stools containing pus and blood. His health had been uniformly good. He had an appendectomy ten years previously. His work, as construction engineer on suburban building developments, carried him to various parts of the Eastern Seaboard and throughout the Middle West. At the time of his illness he was employed in rural Ohio.

The most likely admission diagnosis lay between amoebic dysentery and typhoid fever with the possibility also of viral enteritis. Blood agglutinations, stool examinations, and cultures were obtained by Dr. Kohn on admission and repeated at frequent intervals. The total white blood count varied from 16,000 to 20,000 with a marked shift to the left. The admission temperature was 104° and the pulse ranged from 76 to 106 per minute. The following day the temperature fell to 100° and remained low for the ensuing three days. The pulse ranged between 80 and 90. The stools rapidly diminished in number and daily examinations showed no significant organisms and but little pus. Blood was drawn every second or third day for routine agglutinations and these were reported as uniformly negative until one week after admission when the typhoid and paratyphoid titres rose to 1:40 where they remained for the next two weeks.

Two days after admission, the abdominal discomfort increased. Tenderness developed throughout both lower quadrants and the upper abdomen became distended. The temperature rose during the next 48 hours and frequent bouts of nausea and vomiting occurred. Loose stools returned despite paregoric, Kaopectate, Lactinex, chloramphenicol and Sulfasuxidine. On the fourth hospital day the abdomen continued distended with findings suggesting peritonitis localized in the pelvis. A Miller-Abbott tube was passed and intravenous fluids and antibiotics were given in increasing amounts. X-rays indicated a mechanical obstruction of the small bowel.

The following day a second x-ray film of the abdomen showed a moderate amount of free air beneath the diaphragm. Re-examination of the film made the previous days showed a small amount of unrecognized air had probably been present 24 hours earlier. The patient meanwhile had improved somewhat and the question immediately arose as to whether a laparotomy should be done in an effort to find and close the source of the leak, or whether, in view of the time that had elapsed since perforation, reliance should be placed on intravenous fluids, intestinal intubation and antibiotics.

The latter course was decided upon. A mass in the lower abdomen which could also be palpated rectally gradually developed. The Miller-Abbott tube descended in a most deliberate fashion and required seven or eight days to reach the cecum. As the patient improved his dislike for the tube increased, and finally, with some misgivings, it was withdrawn after a ten-day stay in the intestinal tract. He did well for several days but five days after removal of the tube symptoms of small bowel obstruction returned and it became necessary to do a catheter ileostomy. The distention lessened rapidly after this and the inflammatory mass in the pelvis gradually subsided.

Meanwhile, one week after the first stool culture was obtained, a report of salmonella infection was received. This was subsequently verified by the Virginia State Board of Health as S. norwich. No material change in therapy was made for the patient was receiving chloramphenicol at the time. The temperature gradually fell as the abdominal mass subsided. There were transient spells

of mild diarrhea but these lessened and the patient was discharged in good condition after a stay of 39 days in the hospital. He has done well since his discharge.

The second case was of shorter duration:

Mrs. A. K. E., (Retreat Hosp. No. 3645-0) a 47 year old white married female, was admitted on November 11, 1963, because of painful bilateral breast tumors and lower abdominal discomfort associated with a pelvic mass. Her health had been generally good and there was no family history of significant illnesses. Five years previously a benign tumor was excised from the right breast. On the day after admission, a D & C and sterile pelvic examination confirmed the presence of a uterine fibroid; and a total hysterectomy, left salpingo-oophorectomy, appendectomy and excision of bilateral benign breast tumors were done. The operations required less than two hours and the patient was not upset by the procedures.

She complained of some nausea off and on during the first 48 hours postoperatively but took fluids by mouth and appeared to be progressive satisfactorily. On the third postoperative day, the patient passed much flatus and had three bowel movements. The following day she had nine liquid stools; but despite this, her abdomen became distended. Lomotil and paregoric were given without benefit and at least nine liquid stools were passed the next day and 10 the following day. Lactinex and Mycostatin were given as a precaution in event the diarrhea was due to a change in the bacterial flora as the result of the antibiotic she received in the immediate postoperative period.

On the seventh postoperative day only eight liquid stools were passed, but the abdomen had become more distended and she vomited several times. A flat film on this date showed a severe ileus and a Miller-Abbott tube was passed into the upper intestinal tract. The liquid stools checked as suddenly as they had begun. Chloramphenicol was added to the intravenous fluids on this date and was given daily for the next five days.

The Miller-Abbott tube descended by fits and starts but gradually decompressed the small bowel. Repeated stool examinations showed only occult blood and no significant bacteria or fungi were found. The Miller-Abbott tube drained freely and was finally removed on the eighteenth postoperative day. Two days later the patient was discharged in good condition and free from abdominal symptoms. Three days following discharge a report was received indicating that a stool from this patient contained S. manhattan.

Summary

Two recent patients with severe gastrointestinal symptoms requiring drastic therapy are reported. Salmonella were cultured from the stool in each instance. In the first case the positive report cleared up the question as to the nature of the infection, although it did not alter the therapy. In the second case the diagnosis was not made until after the patient was discharged from the hospital.

Fortunately, in each instance, we builded wiser than we knew for chloramphenicol was given in large amounts. This appears to be the drug of choice although recent reports have tended to minimize the value of this or the other recommended antibiotics save in the case of typhoid fever.

The impression is widespread that the majority of salmonella infections in this country, at least, run a relatively benign course and only pose a threat to life in the very young and the very old. This feeling is not borne out by the above reported cases.

Any infection that results in a perforation of the bowel in a healthy young male or precipitates a severe ileus in a recent postoperative has great potential for evil. The surgeons as well as the physicians in this region will have to keep this possibility in mind whenever they encounter severe diarrheas that respond sluggishly or not at all to the usual measures.

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The Population of Elders

The number of older people in the United States continues to increase rapidly. It is estimated by the Bureau of the Census that there were about 18.2 million persons at ages 65 and over in July of 1965—a gain of 1.6 million since the Census was taken in April 1960 and 5.9 million since April 1950. Their number, moreover, is expected to exceed 21 million in 1975 and total 25 million by 1985.

For more than a century, the elders have been increased more rapidly than the population as a whole. The proportion at ages 65 and over has risen from 8.1 percent of the total population in 1950 to 9.3 percent at present. In the next two decades, however, the proportion is expected to advance only slightly, if at all, as a result of the population boom at the younger ages.

The rate of population growth in the years ahead will be somewhat greater at ages 75 and over than at 65-74 years. Thus, between 1965 and 1975, the increase at ages 75 and over will be 19.1 percent, compared with 15.1 percent for the preceding age group. In the following decade, the corresponding increases are expected to be 18.4 and 17.9 percent, respectively.

Women outnumber men at ages 65 and over, and the outlook is that the disparity will widen. The disproportionate number of older women results from their more favorable survival record throughout the life cycle. Currently, there are about 2,300,000 more older women than men, the respective totals being 10,225,000 and 7,931,000. The women are expected to outnumber the men by 3,300,000 in 1975, and by almost 4,500,000 in 1985. There are now 129 women for every 100 men at ages 65 and over; two decades hence, the ratio may be 143 per 100.

Most elderly people live in a family unit. This is the arrangement for four-fifths of the men and for more than three-fifths of the women. Two out of every three men at ages 65 and over are the head of a family in which the wife is present. The other men living in families either are the head of other than husband-wife families or live with the family of a relative. Of the men not living in families—who constitute one-fifth of all men at ages 65 and over—a large majority reside in households with unrelated individuals.

A considerable proportion of people continue to work after their 65th birthday. In 1964, two-fifths of the men at ages 65-69 were employed full or part time; even at ages 70 and over, 1 out of every 5 was working. Although the percentage of women at work was much smaller, about one-sixth of those at 65-69 years were employed. Labor force participation of the elders in the population has not changed appreciably in recent years. (Metropolitan Life Insurance Company)

Cavernous Sinus Thrombosis Complicating Sinusitis and Orbital Cellulitis

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Cavernous sinus thrombosis may complicate infections of the naso-orbital area, septic trauma to the nose or eye, purulent maxillary, ethmoid, or frontal sinusitis, or purulent middle ear or mastoid disease. Early recognition and treatment is most important.

THE PURPOSE of this paper is threefold:

1. To present a case of cavernous sinus thrombosis complicating sinusitis and orbital cellulitis
2. To re-emphasize the need for constant awareness of the possibility of this complication of infections around the face and head
3. To summarize current thoughts on prognosis and treatment

Case Report

This 10 year old Negro female was in her usual state of good health until five days prior to admission when she developed aching pain in the right upper molars followed by a frontal headache. Two days prior to admission she developed edema of the left upper eyelid. She was seen by her family physician and referred for treatment of what was felt to be impending cavernous sinus thrombosis. She had been febrile since the onset of her peri-orbital edema. There was no history of convulsions. Treatment by her family physician had consisted of Procaine Penicillin Aqueous 600,000 units IM on the day prior to admission.

Admission physical examination revealed an acutely ill, lethargic, colored female who appeared her stated age of 10 years. Temperature was 103, pulse: 120 per minute, respirations: 20 per minute. She responded to questions with only simple grunts and monosyllable. However, her family had noticed no change in her mental status and apparently she was of limited intellectual capacity. Her integument was clear; there was no remarkable lymphadenopathy. Her neck was supple. Examination of her eyes revealed marked proptosis OD with peri-orbital edema and chemosis. There was moderate peri-orbital edema OS. Ocular motility revealed inability to abduct the right eye beyond the midline. There was moderate limitation of elevation in abduction and adduction and there was moderate limitation of depression in abduction but depression in adduction was normal. Ductions OS were full. There was slight anisocoria, the right pupil being larger than the left. The right pupil reacted only sluggishly to light. The left pupil reacted normally. Cloudy media obscured fundus details OD. The left fundus

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showed a normal disc, normal vessels and normal macula. Vision was limited to fingers OD; OS was normal.

The remainder of the physical examination was within normal limits. Sinuses were not transilluminated.

Neurologic examination revealed normal gate, station and muscle tonus. Cranial nerves were intact except as listed above. Cerebellar function was normal; there was no muscular weakness, atrophy or fasciculations. Sensory modalities were intact; deep tendon reflexes were equal, active and physiologic; plantar responses were flexor.

Lumbar puncture on admission revealed an OP 100mm H_2O and CP 90mm H_2O with 55 WBC of which 54 were PMNs. Total protein was 22 mgms %. Urinalysis was essentially normal. Admission hemogram, Hct. 37%; 14,142 WBC with 86% polys. Blood culture and CSF culture revealed no growth. X-rays revealed opaque maxillary and ethmoid sinuses on the right.

Therapy on admission consisted of Procaine Penicillin Aqueous 600,000 units IM q8h, Chloromycetin 250 mgm. PO q8h, and Madribon Gms. 2 stat PO followed by 1 Gm. daily.

The patient became afebrile two days after admission, the left periorbital edema began to subside, but the right proptosis and edema remained marked. On the fourth hospital day she was first seen in consultation by the ENT service.

On the same day an incision and drainage of the right ethmoid area by an external approach (Lynch incision) was performed and a large collection of purulent material was found in the periorbital tissues. A breakthrough from the ethmoids was observed. The area was debrided and drained. A right nasoantral window was then made and the antrum found to be filled with purulent material, which, on culture, revealed only diphtheroids. The right upper first molar tooth was surrounded with inflammation and exhibited a large cavity. This tooth was extracted. The root of the tooth apparently did not enter the sinus and no oro-antral fistula was demonstrated. The patient gradually improved and was discharged on the thirteenth hospital day. The proptosis had practically resolved but a partial third and sixth nerve palsy remained for four to six weeks following discharge. A slight proptosis on the right has persisted for over two months since discharge.

TABLE I

DIFFERENTIAL DIAGNOSIS[9]

Orbital cellulitis
Thrombosis of the cavernous sinus
Thrombosis of orbital veins
Orbital periostitis
Distention of the accessory sinuses of the nose
Meningocele
Encephalocele
Gumma
New growth
Orbital hemorrhage
Orbital emphysema
Tubercule
A-V aneurysm

Clinical Features and Diagnosis

The criteria for diagnosis have been expounded upon by a number of authors.[1,2,3,4,5] As is the case with many illnesses today, the widespread use of antibiotics has tended to mask the so called "classic picture" of the disease. In 1961, Brown reiterated the major signs of the disease and the criteria on which the diagnosis is based as:

1. Exophthalmos, chemosis, and eyelid edema—
   Cause: Orbital congestion due to thrombotic blockage of the ophthalmic vein as it enters the cavernous sinus (and probably retrograde as well) and orbital cellulitis
2. Diplopia, strabismus, and partial to complete paralysis of the occular muscles—
   Cause: Involvement of the third, fourth, fifth, and sixth nerves as they pass through the sinus
3. Progression of signs from one eye to the other—

Cause: Venous intercommunciation between the cavernous sinuses

Additional signs and symptoms are:

4. Pain behind the eye—
   Cause: Pressure against ophthalmic branch of Trigeminal (V) nerve in wall of sinus
5. Malaise, chills, anorexia, nausea, and vomiting
   Cause: Systemic involvement
6. Prostration, coma
   Cause: Widespread thrombotic metastases and possibly due to necrosis or abscess of pituitary gland.[13]

Cavernous sinus thrombosis may be divided into anterior, posterior, and retrograde varieties. The anterior variety commences from infections around the face; the posterior variety arises from sinus infection and infections in the mouth; the retrograde variety arises in the area of the ear or mastoid.

Infection from the anterior route produces rapid swelling of the soft tissue around the eye and the adjacent side of the nose. This is followed shortly afterward by paralysis of movement of the eye.[6] Invasion of the sinus from the posterior route causes mainly paralysis of the eye with little or no swelling of the soft tissue around the eye. Usually swelling in the mastoid area is seen only in the retrograde variety.[5]

The diagnosis of cavernous sinus thrombosis is made primarily on the grounds of clinical signs and symptoms only. A definite diagnosis may be very difficult and indeed it may be impossible if the patient survives. More recently Meyer and Abrams as quoted by Clune[7] in 1963 have been able to make a positive diagnosis by serial carotid arteriography. They state that after four to six seconds in serrogram films, using the Sanchez-Perez rapid cassette changer, the cavernous sinuses can be visualized in normal individuals at the same time as the superior and inferior sagittal sinuses. Nonvisualization within the designated time is a reflection of obstruction of venous drainage and of thrombosis.

Table II

Primary Foci of Infection

	Clune (7)	Brown (2)	Pascarelli (8)
Furuncles of face	15	2	61%
Sinusitis and nasal infection	10	3	15%
Otitis	5	2	8%
Dental Infections	1	—	7%
Facial Injuries	3	—	—
Other	2	—	5%

Pathologic Anatomy

The detailed anatomy of the cavernous sinuses can be found in any good anatomy text. Only a very brief review will be given here.

The cavernous sinuses are paired structures formed by the separation of the two layers of dura mater, lined with endothelium and found lying on either side of the body of the sphenoid bone. Each one extends from the superior orbital fissure and to the tip of the temporal bone. Like the other venous sinuses, the cavernous sinuses are formed by the separation of the two layers of dura mater and are lined with endothelium. The cavity is interlaced by numbers of delicate, fibrous threads.[10] There may be as many as ten venous channels draining into each cavernous sinus.[6] Traversing the sinus is the internal carotid artery and the abducent (VI) nerve. Within the lateral wall of the sinus are the occulomotor (III), the trochlear (IV) and the ophthalmic and maxillary and occasionally the mandibular divisions of the trigeminal (V) nerve.

The three main routes of involvement are:

Anterior: from face—facial vein—angular vein—orbit—superior ophthalmic vein—cavernous sinus

Posterior: from sinuses, nasopharynx, and inside of mouth—ethmoid and pterygoid venous plexuses—cavernous sinus

Retrograde: from middle and inner ear mastoid—lateral sinus—petrosal sinus—cavernous sinus

Treatment

Upon reviewing the available recent literature it is apparent that the patient reported here received less medication than is ordinarily given for cavernous sinus thrombosis. That she recovered does not alter this fact. The following suggested adult treatment regimen has been culled from the recent literature:

I. Antibiotics:
   Penicillin—intravenously
   Staphcillin—IM
   These might be supplemented with:
   Chloromycetin
   Sulfadiazine
   Erythromycin
II. Anticoagulation:
   Heparin—keep Lee White clotting time greater than 15 min.
   Coumadin—keep prothrombin time 25-30% of normal
III. Fibrinolysins:
   Bovine fibrinolysin
IV. Hypothermia
V. Steroids

Comment on Therapy

Antibiotics: Brown[2] reports that the majority (60% according to Yarington,[4]) of infections are due to Staph aureus coagulase positive with occasional staph albus or streptococcus. Rarely pneumococcus, proteus, or hemophilus influenza are the offending organisms. Conway[12] reports two cases caused by mucormycosis. (Particularly in diabetics one should be mindful of this and Amphotericin B or Griseofulvin would be appropriate therapy.) Generally, the antibiotics most frequently employed are penicillin, chloramphenicol, streptomycin, and sulfadiazine in various combinations.[4,8,6,2,11] The importance of combination therapy on suspicion of this disease is re-emphasized. After culture and sensitivity reports of blood, CSF, and the primary lesion have been received antibiotic therapy can be adjusted as necessary. The combination used here is suggested by Brown and is based on the fact that penicillin is usually effective against streptococcus, penumococcus, and non-resistant staphylococcus while staphcillin is effective against the resistant staphylococcus. Dosage of penicillin has ranged from 400,000 units/24 hrs. with success to 100 million units/24 hrs., with failure.[4] Chloromycetin in dosages of 3-6 grams/24 hrs. and/or Sulfadiazine (about 6 grams/24 hrs.) might be added if desired. Erythromycin may be substituted for penicillin and staphcillin in persons allergic to penicillin.

Anticoagulation: According to Taylor as quoted by Clune[7] anticoagulation is desirable although its use may encourage widespread dissemination of the offending organism. He points out that bacteremia is less hazardous to life than multiple septic infarcts which have been found in nearly all cases coming to autopsy. Most common sites of septic infarcts in order of frequency are lungs, brain, orbit and kidneys. Anticoagulation is most effective if the agent is administered before complete thrombosis of a cavernous sinus, or at least before bilateral involvement becomes evident.[4] This aspect of therapy is also advocated by Gallagher[6] and Pascarelli.[8]

Fibrinolysin: Only a few cases where fibrinolysin has been used are found in the literature. The dosage has varied greatly. In each of the two cases treated at the Detroit Receiving Hospital[7] IV bovine fibrinolysin was used with success and in combination with anticoagulation. In one case the dosage was 50,000 units IV q 12 hrs. for three days, while in the other case 600,000 units were given by IV drip over four hours. This was continued for five days.

Hypothermia: Hypothermia as reported by Birnmeyer and quoted by Yarington[4] might prove quite useful. Its use is based on:

1. Minimization of cerebral edema
2. Decrease in incubation temperature and thus decrease in reproduction of bacteria
3. Alleviation of septicemic shock

Conway[12] would tend to withhold hypothermia until the appearance of signs of increasing cerebral edema (i.e. decreasing state of consciousness becomes manifested). Although its use would seem logical, very little is found in the literature of its use with cavernous sinus thrombosis.

Steroids: The rational of the use of steroids is based on the involvement of the hypophysis as found at postmortem examination and reported by Brown[2] and Walsh.[13] Adrenal insufficiency on this basis may contribute to vascular collapse and consequent death. Solomon et al[14] reports the use of Prednisone in the initial dose of 40 mgms. followed by 30 mgms. orally each day thereafter for 39 days with gradual reduction of dosage. They felt that this is a useful adjunct to the usual antibiotic and anticoagulation therapy.

Prognosis

The prognosis for this condition is difficult to determine. Certainly it would appear better today than in the pre-antibiotic era, but one must guard against being over optimistic. Since 1950 many reports of survival of cavernous sinus thrombosis have appeared in the literature.[15] Prior to antibiotics the mortality was almost 100% but now that survivals have been made possible there is a tendency to report these survivals whereas the fatalities are reported perhaps less frequently. The estimated mortality rate varies widely as seen in Table 3.

Table III
Mortality

Author	*Year*	*No. Cases Reported*	*% Mortality*	*Years Covered*
Grove	1936	400	100%	to 1936
Shaw	1948	60	12%	1937-1938
Brown	1961	23	91%	1889-1943
Brown	1961	7	43%	1943-1960
Yarington	1961	878	72.8%	to 1961
Clune	1963	36	28%	1948-1963

Although there is apparent improvement since 1943, the prognosis remains grave and guarded.

The morbidity also remains high. Various authors[14,6,7] estimate that from somewhat less than 50% to as high as 75% of the patients who recovered showed residual of the disease. These included metastatic pulmonary infection, orbital abscess, brain abscess, ptosis, proptosis, cerebral atrophy, and partial to complete blindness.

Summary

A case of sinusitis and orbital cellulitis complicated by cavernous sinus thrombosis has been presented. The literature has been briefly reviewed. Criteria for diagnosis, and current thoughts on therapy have been presented.

Those who treat infections of the naso-orbital area, septic trauma to the nose or eye, purulent maxillary, ethmoid, or frontal sinusitis, or purulent middle ear or mastoid disease should be constantly aware of cavernous sinus thrombosis as a possible complication. The need for early recognition and vigorous treatment of these infections is apparent.

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Eye Lens Aging

Faster-than-average eye lens aging has been found among those who work with high-powered radar equipment. A report in a current American Medical Association publication points out, however, that it is impossible at present to relate this effect to vision impairment.

Two investigators from the New York University Medical Center examined 736 persons who worked with microwave equipment at 16 locations. They also examined 559 persons from the same areas who were not exposed to microwave radiation. They found significantly greater numbers of minor lens defects among the radar workers. The defects were the same types associated with aging of eye lenses. It was determined that certain types of radar work were associated with accelerated lens aging. Those who worked in radar research and development had greater numbers of minor eye defects than radar installers, operators, or maintenance men.

Further statistical studies indicated that it was microwave radiation, not x-radiation from radar-set tubes, which contributed to the lens aging. In fact, workers with the greatest exposure to x-radiation had the lowest incidence of eye defects.

Younger men who had worked with higher-powered equipment were found to have greater numbers of eye changes than some older men who had worked longer periods with lower-powered equipment.

The investigators stress that more research is needed to determine the significance of microwave radiation to lens damage.

"Occupational exposure to microwave radiation may be implicated as a stress which increases the rate of lens aging, although it is impossible at present to relate this effect to functional impairment such as loss of visual acuity or cataracts."

Earlier research indicated that cataracts eventually formed on the eyes of rabbits exposed to prolonged microwave radiation.

The report appears in the January Archives of Environmental Health, published by the AMA. The authors are S. F. Cleary, Ph.D., and B. S. Pasternack, Ph.D., of the Institute of Environmental Medicine, New York University Medical Center, New York City.

Cyesis and Marfan's Syndrome

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Marfan's Syndrome is a serious complication of pregnancy in that it becomes a threat to the life of the mother.

MARFAN'S SYNDROME is an uncommon but not rare, inherited, selective disorder of the connective tissue—which element is not clear. The cause is not known other than it is heritable as a simple Mendelian autosomal dominant.[1] The syndrome was first described by Marfan in 1896 as dolichocostenomelia[3] and is not to be confused with Marfan's disease. It has been called arachnodactyly because of the long spidery fingers and toes associated with it.[3,5] Because of its supposed mesodermal origin and heredity, this syndrome has been designated dystrophia, mesodermalis congenitus, typus Marfanis.[2]

In 1955 McKusick[1] reported that at least 350 cases of Marfan's syndrome had been reported. In 1961 Borglin and Bach[4] stated that 400 cases had been reported. In his 1955 report, McKusick made an extensive study of this syndrome and its complications. He stated that the sexes are equally affected with ruptured aortic complications being greater in the male, possibly because of the more vigorous life.[1]

Leeming and McKusick[4] studied the serum seromucoid level and concluded that it is not significantly altered from that of normal persons but tends to be above normal rather than below the normal level as previously stated. An increased excretion of hydroxy proline suggests that the metabolic disorder of the collagen tissue may be the primary cause of the condition.[8]

Cardiovascular lesions such as dissecting aneurysms of the aorta and large vessels are common, and the risk of rupture is a real threat to life and is believed to be increased by pregnancy.[2,4,5] The early changes most likely to be seen in cases dead of dissecting aneurysm are indistinguishable from Erdheim's cystic medial necrosis.[2] The late changes which occur characteristically in cases of dilation of the ascending aorta, usually with profound regurgitation consist of: 1. Disruption of elastic lamellae; 2. Formation of conglomerate, disorganized masses of hyperplastic and hypertrophied smooth-muscle fibers; and 3. Formation of greatly dilated vascular channels penetrating the media from the adventitia. These changes result in a thickened but weaker aortic wall.[2] In addition, the aortic cusps become extremely sacculated.[2] Mild coarctation of the aorta, pulmonary artery defects, interatrial septal defects (usually patent foramen ovale) may be present as well as valvular changes and dysrhythmias and conduction defects (atrial fibrillation).[2,5] Peripheral arteries do not seem to be affected.[2]

Pulmonary changes such as congenital cystic disease, variation in lobar and lobular development and vestigial lobes have been reported as well as frequently occurring respiratory infection and deficiency of diaphragm musculature.[5] These lead to decreased vital capacity and lack of oxygen saturation of blood after exercise.

The most pronounced clinical manifestations are usually found in the musculoskeletal system.[5] The patient is tall and thin with little subcutaneous tissue. The vertex to symphysis length is less than the symphy-

sis to sole length. The digits are longer than the metacarpal bones and the toes are longer than the metatarsal bones. The great toe is markedly enlarged. Pes planus is present. The arm span is equal to or greater than the patient's height. The face is long and narrow, the palate is high with marked arching, and there is a tendency to prognathism. The muscles are underdeveloped and hypotonic with normal reaction to electrical stimuli. The marked pectus excavatum is due to increased longitudinal growth of the ribs. Joint capsules, fascia, and ligaments are weak and redundant producing such things as scoliosis and/or kyphosis, genu recurvatum, pes planus, habitual dislocation of the hips, hernia, and hydrocele.[5]

The ocular finding most commonly seen is ectopia lentis (80%). The pupil is often difficult to dilate due to hypotonia. The iris may be tremulous, the sclera blue and cloudy. Myopia, keratoconus, and megalocornia may be present. Spontaneous retinal detachment occurs.[5]

Marfan's syndrome tends to become manifest in the childbearing age and hence does complicate pregnancy.

Borglin and Bach[3] in 1961 reported a case of Marfan's in a 23 year old woman. Their patient, in addition to the usual skeletal findings present, had a pulsating tumor in the left common carotid artery. She was delivered by Cesarean section at 37 weeks of pregnancy and had an uneventful convalescence. Two months post delivery she suddenly became very ill with cardiac failure and died three days later. Autopsy showed an incomplete aortic rupture with dissecting aneurysm from close to the heart to a few centimeters along either common carotid artery. The pulsating neck tumor was a vein collection. They feel that should a woman with Marfan's become pregnant, abortion and sterilization should be strongly considered.

Novell, Asher, and Lev[5] in 1958 reported Marfan's in a pregnant 24 year old white woman with two previous full term vaginal deliveries. Her daughter was a typical Marfan's even in her teens. The present pregnancy was terminated near term by low forceps with episiotomy and she was discharged on the fourth postpartum day in good condition. However, on the eleventh postpartum day, she had sudden, severe substernal pain. The only positive findings were a tender left breast and a grade II systolic murmur not previously present. However, she stated she knew she was going to die. The pain subsided rather rapidly only to recur later that day, and this episode was soon followed by death. Cardiovascular pathological diagnosis: 1. Coarctation of aorta. 2. Aneurysm of the sinus of Valsalva and aneurysmal dilation of left and posterior sinuses of Valsalva. 3. Ruptured dissecting aneurysm of ascending aorta. 4. Hemopericardium. 5. Rupture of right main coronary artery. 6. Atheroselosis.

The following case report is presented:

This 24 year old, white, married female was first seen in the office on October 10, 1964, because of amenorrhea since her last menstrual period on July 7, 1964. She had had no cramps or bleeding since. Her EDC was April 17, 1965. Only positive symptoms and findings will be presented in the interest of brevity. She had nausea without vomiting all day and urinary frequency. Menarche at 16 years. Menses every four to eight weeks with average five-day flow and nausea without vomiting. Married four years. P. H.: Usual childhood diseases. Rheumatic fever as a child, flu, appendectomy. Patient stated she had reached her present height (6′2″) and weight 134 pounds) by time she graduated from high school. F.H.: Mother and three brothers and two sisters living and well. Father died of lung cancer and was built just like patient except he did not have pectus excavatum. One brother has the same physical characteristics as the patient. All of her paternal uncles were tall. Husband 34 years, 6′1″, 180 pounds, good health.

P. E.: Weight 135½ pounds, height 6′2″, BP 142/90. HEENT: Many teeth missing, extremely high and narrow arch to palate. (Fig. I). Chest extremely long, marked

pectus excavatum. (These pictures at five months pregnancy and hence breasts larger than described at eight weeks.) (Fig. II & III) Breasts: right, very small; left, moderately small with 4 centimeter nodule under nipple, good support, nipples erect. Back: kyphoscoliosis. Heart: loud systolic (grade III) murmur rediating from precordium to back with strong apical impulse. Lungs clear and resonant. Abdomen: healed McBurney scar. Pelvic negative except for soft, closed cervix and anterior, free, symmetrical, soft uterus the size of an eight weeks pregnancy.

(Fig. IV) Extremities long and thin with spider fingers and toes and genu recurvatum. (Fig. V)



Fig. I



Fig. II



Fig. III



Fig. IV



Fig. V

Laboratory findings: urine negative, hemoglobin 12.7 grams, WBC 4,000 with normal differential, VDRL negative, BUN 9 mg.%, Sugar 66 mg.%.

Impression at this time was pregnancy eight weeks, rheumatic heart disease, pectum excavatum, tumor of breast.

Consultation with medical department was obtained and she was admitted to Stuart Circle Hospital for further study on December 31, 1964, with presumptive diag-

nosis of pregnancy complicated by Marfan's syndrome.

Various Measurements:

A. a. Arm span 189 cms.
   b. Body height 183.125 cms.
      1. Vertex to symphysis 85.00 cm.
      2. Symphysis to sole 98.125 cms.

B. Pelvic measurements:
   a. Interspindus diameter 26½ cms.
   b. Intercistal diameter 31 cms.
   c. External conjugate 20½ cms.

C. Digits:
   a. Left
      1. Little finger 8½ cms.
      2. Second finger 10½ cms.
      3. Third finger 11½ cms.
      4. Fourth finger 10 cms.
      5. Thumb 6¾ cms.
   b. Right
      1. Little finger 8½ cms.
      2. Second finger 10¾ cms.
      3. Third finger 11 cms.
      4. Fourth finger 10 cms.
      5. Thumb 7 cms.

D. Metacarpals:
   a. Left
      1. Little finger 6½ cms.
      2. Second finger 7 cms.
      3. Middle finger 7½ cms.
      4. Fourth finger 8 cms.
      5. Fifth finger 7 cms.
   b. Right
      1. Little finger 6 cms.
      2. Second finger 6½ cms.
      3. Middle finger 7½ cms.
      4. Fourth finger 8 cms.
      5. Fifth finger 5 cms.

(Fig. IV & V) Her extremities were extremely long throughout with long, thin fingers and toes. The great toe is approximately the length of the second toe on each foot but with some angulation at the phalangeal-metatarsal joint. Genu Recurvatum is pronounced.

E. Toes
   a. Left
      1. Great toe 7¾ cms.
      2. Second toe 5½ cms.
      3. Third toe 4 cms.
      4. Fourth toe 3¾ cms.
      5. Fifth toe 5½ cms.
   b. Right
      1. Great toe 7½ cms.
      2. Second toe 5½ cms.
      3. Third toe 4½ cms.
      4. Fourth toe 4½ cms.
      5. Fifth toe 4 cms.

Neurological examination was negative with no disturbance in cranial nerves, sensations of superficial touch and point discrimination. There are no coordination abnormalities.

Examination of eyes by ophthalmologist showed only a mild myopia.

Radiological examination showed enlarged heart and elongated bones of hands and feet. Fluoroscopy revealed a true cardiomegaly due to left ventricular enlargement without dilation of aorta but with pulsations of both ascending and upper descending aorta which appeared greater than normal. It was felt by the fluoroscopist that the patient had true valvular disease; such as aortic insufficiency seen in Marfan's. In view of these findings, it was felt that an aortogram was not indicated because of possible irradiation damage to fetus and increased risk to the patient. The thoracic surgery consultant agreed with these thoughts.

Consensus from the pulmonary laboratory studies was: minimal reduction of vital capacity without spirographic evidence of significant airway obstructive disease; slight reduction in arterial oxygen tension with fairly severe degree of hyperventilation and respiratory alkalosis at rest; because of hyperventilation, there was a significant increase in the alveolar PO_2 gradient amounting to 35 mm Hg corresponding to a venous admixture of 13% of cardiac output; the diffusing capacity of CO_2 was within normal limits.

Conclusion

These findings indicate a mild but definite impairment of oxygen transfer, probably on basis of chest deformity and mild infiltration of lungs. The hyperventilation was explained on the basis of pregnancy and possible anxiety.

All consultants (medical, thoracic surgery, obstetrical) felt that the pregnancy should not be allowed to continue in the interest of the patient because of poor results obtained in Marfan's syndrome associated with pregnancy.

She was discharged on December 21, 1964, for Christmas and she and her husband were asked to help with the decision whether or not to terminate pregnancy.

She was readmitted on December 29, 1964, therapeutic hysterotomy (she was now five months pregnant) and total abdominal hysterectomy were carried out. An incidental finding was partial placenta accreta. An adenofibroma of the breast was also removed at this operation. It was felt that, since there is no cure for Marfan's, if she should not carry this pregnancy to fruition, she should not carry any other. She made an uneventful convalescence and was discharged on the seventh postoperative day. When last seen on February 13, 1965, she was in fairly good spirits and her abdomen and vagina were well healed and supported.

Comment

Marfan's syndrome is the leading cause of dissecting aneurysm in persons under forty years of age[5] and of all dissecting aneurysms, 20-25% occur before the age of forty. Abramson and Tenney[7] reported "half the cases of dissecting aortic aneurysm in women under forty have occurred in pregnancy." Schnitker and Bayer[7] found in their review of the literature that 20 of 24 dissecting aneurysms occur before the onset of labor. Clinically there is no hypertensive aortic disease in Marfan's syndrome.

Because of the poor prognosis for life in pregnant women with Marfan's, the diagnosis must be suspected in women with the clinical stigmata and then the appropriate studies undertaken. (I am familiar with one other locally occurring case of this syndrome in a pregnant woman who died of acute heart failure at seven months of pregnancy.) Complete cardiovascular and pulmonary studies are in order. It is questionable whether or not angiograms should be done because of the possible irradiation effect on the fetus. On the other hand, if the syndrome is already diagnosed and the greatly increased mortality is borne in mind, the irradiation effect on the fetus probably should not weigh too heavily in making this decision. Angiograms can furnish additional valuable information.

Given stigmata of Marfan's, the diagnosis can be made if ectopia lentis is found in the individual or other member(s) of the family.[2] A picture resembling Marfan's can result from erythroblastosis fetalis, intrauterine rubella infections and x-ray therapy to the pregnant woman. Ectopia lentis is not present in these instances.[2]

Several years after aortic regurgitation is first observed, angina pectoris and left-sided heart failure develop. Generally within two years after significant symptoms start, death ensues.[3]

Without question, severe pectus excavatum can be accompanied by dyspnea, pain, and atrial dysrhythmias. Loud systolic murmurs may be present.[3]

The mild form—forme fruste—of Marfan's may easily go unrecognized. Not all individuals with pectus excavatum, scoliosis and/or kyphosis, excessive height and so forth represent this syndrome.

Conclusion

1. A case of Marfan's syndrome in a five months pregnant white woman has been presented.
2. It was felt that her Marfan's was severe enough to preclude the continuance of this pregnancy and the occurrence of another.

3. Total hysterectomy was done as a sterilization procedure.

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School Boys' Health Improving

The marked decrease in disease within the past 15 years among generally healthy American boys and men is illustrated in the January 24th Journal of the American Medical Association. The introduction of antibiotics is credited by the authors of a report as the outstanding factor in reducing sickness in this century.

The health records of a Massachusetts boys school and those of the U.S. Navy and Marine Corps are used to indicate that disease rates may have dropped by as much as 20 to 25 per cent since World War II.

The authors, three physicians at the University of Pennsylvania, surveyed the records of St. Mark's School in Southboro, Mass. The health records of St. Mark's 12- to 18-year-old students have been kept daily since 1900. These records show that, except for seasonal changes, the rate of disease was generally unchanged for almost 50 years. After World War II, it began to drop sharply. These data agree with similar health records of the Navy and Marine Corps.

During the early years of the century, sickness followed a natural "exhaustion of susceptibles" pattern. Isolation of patients for specific diseases provided little protection, and sizeable outbreaks occurred, the school's records show.

St. Mark's had epidemics of measles in the winter and mumps in the fall of 1904. The year 1900 was an epidemic year for measles, mumps, rubella and chickenpox.

The greatest use of the school's infirmary in the past 65 years was during the 1918 influenza epidemic.

These periods were interspersed with times in which there was relatively little disease.

"Interestingly, what seems to be beginning declines (in illness) in the 1930's were interrupted by World War II, when annual rates returned to what they had been at the beginning of the century. Thereafter, the drop was precipitous, and it has been maintained."

"No doubt the introduction of antibiotics in prevention and early cure of bacterial infection is the most outstanding single factor that has lowered general morbidity among selected healthy boys and healthy men in the 20th century."

The authors are Bruce M. Rodenberger, M.D., Theodore H. Ingalls, M.D., and Johannes Ipsen, M.D., all of the Department of Public Health and Preventive Medicine, University of Pennsylvania School of Medicine, Philadelphia.

Prevention of Wound Disruption

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I WISH to present a considered opinion that abdominal wound disruption with evisceration is almost entirely preventable. It still happens often enough so that surgeons keep writing about it, but, in general, it should not occur. It is a serious complication: among 19 disruptions at the Coral Gables Veterans Hospital, there were three deaths from peritonitis or intestinal obstruction.

In discussing prevention, I offer no statistics but confine myself to strong personal opinion. It is my observation that abdominal incisions disrupt because they are not given enough support during the first three weeks of the healing period.

I take issue with one item of standard procedure—the dressing of the wound. It is commonly taught that this dressing should be a loose one, to permit easy breathing and in this way lessen the risk of atelectasis.

My statement is that atelectasis does not come about because the patient can't breathe: it results quite precisely because he won't cough.

With the usual loose dressing, the patient has decided incisional pain when he attempts to cough, and he avoids coughing if he can. The nurse may be instructed to help him by holding his abdomen quite tightly with her hands to support the incision. Well and good if there are plenty of nurses at hand, but during the night, with few nurses, the patient has to suppress his cough as much as he can, and if he does give a good hard cough, he may actually feel a stitch or two give away.

What he needs to do is to cough vigorously whenever there is something to cough out; such repeated vigorous cough is the real major preventive of atelectasis. Stimulation of this vigorous cough by the tracheal catheter is actually one of the major benefits of suction.

During such coughing, the incision needs firm support. It is my conviction that firmly snug adhesive strapping should be employed to assure this support; and my belief that it should be applied in the operating room, and maintained until sound healing is well under way—a matter of nearly three weeks. When wound dressing is done, the adhesive binder is cut just along the incision to avoid pulling off all the skin, and new strapping applied over the old as another layer.

Further—when disruption begins to be suspected, what is the remedy, as a practical matter? Nothing less than snug strapping to support the incision, and unless separation has become gross enough to require resuture, this simple measure suffices.

I have myself experienced two disruptions when the above precaution was not employed, and, as stated above, the surgical residents experienced this complication 19 times in 10 years. They had been instructed by former teachers to avoid strapping the incision, and I had difficulty in persuading them to contravene this standard teaching.

The materials they used for closing the wound appeared to have no influence on the occurrence of disruption. Reliance on silk, cotton or wire proved undependable. It was not that the sutures broke—they pulled through the tissues under strain. It was however noted that tension sutures placed an inch and a half apart did generally prevent gross evisceration even if the wound partly disrupted, and their use seemed advisable in long incisions.

I wish I had some statistics to back up

Presented at the meeting of the Virginia Surgical Society, Williamsburg, May 22, 1965.

my strong personal opinion, but I assure you that if experience had indicated any tendency to increased pulmonary trouble when the wounds were snugly strapped, I should have had to change my opinion long since, for I am aware that it is entirely unorthodox. I have a notion indeed that one or two of the watchful residents would not have been at all distressed to be able to catch me in a fundamental error of this sort. Unfortunately for the patients, I was able instead to catch them.

Summary

Evisceration can be reliably prevented by snug support of the abdominal incision by adhesive strapping. Even though healing may be delayed by infection, and deeper layers may actually separate, the abdominal viscera will not protrude, and healing will take place by secondary intention. It is only necessary to maintain support until healing does occur. With such strapping in place, I have not seen disruption requiring resuture.

Such strapping does not at all predispose to atelectasis. On the contrary, it lessens this risk by permitting good vigorous coughing, day or night, whenever the patient has something to cough out of his bronchial tree.

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FDA Would Add 17 Drugs to Amphetamine-Barbiturate Controls

Proposal Based on an Expert Committee Recommendations; 30 Days Allowed for Comment.

Food and Drug Administration is proposing to make 17 drugs in addition to *amphetamine and barbiturates* subject to the 1965 drug abuse control amendments. There were no surprises for the industry in the list of products to be included, although there probably will be some protests. The proposal was carried in the Federal Register for January 18, 1966. Interested parties had 30 days for submission of comments to the hearing clerk, Department of Health, Education, and Welfare, Room 5440, 330 Independence Avenue, S.W., Washington, D. C. FDA has asked for comments on "any additional trade or other names that should be listed under the new law . . . as well as comments on any combination of drugs listed, with other drugs, which FDA should consider for exemption because of their lack of significant potentiality for abuse." The agency grouped the 17 drugs it wants included in the new controls into three classifications:

1. *Drugs having a potential for abuse because of their depressant effect on the central nervous system:* glutethimide (Doriden), chlordiazepoxide (Librium), meprobamate (Miltown, Equanil, etc.), ethchlovynol (Placidyl), chloral hydrate, diazepam (Valium), ethinamate (Valmid), methyprylon (Noludar), paraldehyde.
2. *Drugs having a potential for abuse and habit forming because of their stimulant effect on the central nervous system:* "d" and "dl" methamphetamine and their salts phenmetrazine hydrochloride (Preludin).
3. *Drugs having a potential for abuse because of their hallucinatory effect:* d-lysergic acid diethylamide (LSD-25), peyote, mescaline and its salts and dimethylryptamine (DMT), psilocyn, psilocybin.

The Medicare Rocker

A Technical Aid in the Barium Enema Examination

CHRISTIAN V. CIMMINO, M.D.
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FOR MANY YEARS we have been doing the fluoroscopic barium enema examination with the incontinent or infirm patient lying on a radiolucent (aluminum or plastic) bedpan. The difficulty in rotating the bedpan-saddled patient from side to side has constantly disturbed the writer; this was brought into striking relief recently by a patient in whom a cancer of the sigmoid was overlooked for just this difficulty.

The illustrated device, christened the *Medicare Rocker,* can be fashioned from scrap lumber and two belts in little time. The technician manipulates the rocker according to the examiner's wishes dictated by the needs of the examination.



Fig. 1



Fig. 2

Mary Washington Hospital
Fredericksburg, Virginia

"Smart Pills" Are on the Way

Improved and more effective tranquilizers that do not produce drowsiness or other undesirable side effects will some day be available. Indeed, these future drugs affecting the nervous system and our moods will be aimed toward specific clinical indications. Some will be designed to aid in concentration, improve the memory, and accelerate the thinking process. These so-called "smart pills" will also increase alertness during stressful periods and also assist slow learners and retarded persons. Others will remove grief and sadness, and some may be useful in alcoholism and other character disorders. Austin Smith, M.D., in *Emory University Quarterly,* (21:136-137), Summer 1965.

Clinicopathological Conference . . . .

Heart Failure and Urinary Tract Infection

Medical College of Virginia

Prepared and Edited by
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DISCUSSANTS:

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Clinical History

The patient was a 64 year old Negro man who was first admitted to E. G. Williams ward medical service on 10/9/63 with a chief complaint of "short breath".

In April, 1963, he began to develop progressive exertional dyspnea, orthopnea and dependent edema. He was admitted to another hospital in May where he had a temperature of 102.6°, and a blood pressure of 170/90. The heart was enlarged to the left with the apical impulse in the 5th left intercostal space almost at the anterior axillary line. An apical thrill and Grade III apical systolic murmur were noted. He was in obvious cardiac failure but responded well to digitalis and diuretics. The fever was thought to be due to a pulmonary infection and responded to penicillin. He was hospitalized again in July with a recurrence of fever and heart failure. An urinary tract infection due to an A. aerogenes was found. A Foley catheter was left in place because of prostatic enlargement and he was treated with tetracycline over the next month. He required hospitalization again in August for the same problems. The catheter was removed at this time and he had been relatively free of symptoms until the day of admission.

On the day of admission his dyspnea became more severe and he had two episodes of hemoptysis during which time he coughed up small amounts of bright unclotted blood.

He denied any history of hypertension, rheumatic fever or anginal or pleuritic pain. He had had night sweats for several months.

Review of systems was negative except for a 40 pound weight loss over the past few months. Family and social history were noncontributory.

Physical examination: B.P. 125/80, R. 44, P. 104, T. 98°. The patient was an elderly Negro man sitting propped up in bed in acute respiratory distress. Sclerae were not icteric. The optic fundi were normal except for slight A.V. nicking. Teeth were carious. The neck veins were markedly distended with the patient sitting upright. Respirations were labored and the patient was using his accessory muscles for respiration. Moderate emphysema was present. Auscultation revealed generalized fine medium moist inspiratory rales and expiratory rhonchi over both lung fields. The cardiac apical impulse was maximal in the 6th left intercostal space in the anterior axillary line. Regular rhythm present. A Grade III, harsh, medium-pitched, apical systolic murmur was described. P_2 was accentuated. Both aortic sounds were of equal intensity. The liver edge was palpable 4 cm. below the right costal margin. There was pitting edema bilaterally over the pretibial area.

Laboratory data: Hemoglobin 11.5 gm.%, BUN 17 mg.%, fasting blood sugar 82 mg.%. Urinalysis revealed straw-colored, hazy, acid urine with a specific gravity of 1.008; albumin, sugar and acetone tests were negative. The microscopic showed numerous WBC and an occasional RBC. A urine culture grew E. coli with a colony

count of over a million organisms/ml.

PPD skin tests were negative and examination of sputum for acid fast bacilli was negative.

He was given mercurials and maintained on digitalis and bed rest. He underwent diuresis promptly and improved clinically.

The patient was given Gantrisin® for his urinary tract infection and sent home on 10/16/63 to be followed in the clinic. On his first clinic visit, two weeks after discharge, he was doing well but over the next two months he developed increasing exertional dyspnea and dependent edema which necessitated his readmission to E. G. Williams on 12/16/63. The patient stated that he had been taking his medicine faithfully but did admit to intemperate use of salt.

Physical examination revealed nothing in addition to that found in the previous admission.

Laboratory data: The urine was yellow, cloudy, acid and had a specific gravity of 1.016, one-plus albuminuria, but no sugar or acetone. Microscopic examination revealed numerous bacteria with 15-20 WBC/hpf and occasional RBC. A clean catch mid-stream urine specimen grew E. coli. A colony count was not done. Hemoglobin 12.4 gm.%, WBC. 5,400/mm^3. BUN 44 mg.%.

A chest x-ray showed cardiomegaly and pulmonary congestion. A cardiac series showed left atrial and left ventricular enlargement.

A barium enema was unsatisfactory because the patient could not cooperate fully.

An electrocardiogram showed a wandering pacemaker and suggested left ventricular hypertrophy.

The patient was treated as before and discharged as improved on 12/19/63 to be followed in the clinic. He continued to complain of dyspnea, orthopnea and dependent edema on his clinic visits and his symptoms eventually became severe enough to require hospitalization on 1/18/64.

The patient was acutely dyspneic on admission and slightly confused. BP 150/90, P. 68, R. 42, T. 98.6°. Physical examination revealed marked neck vein distention, dullness to percussion in right lung base, and medium moist rales posteriorly bilaterally. The apical impulse was in the 6th left intercostal space in the anterior axillary line and heaving in character. An apical thrill was present and a Grade IV-V harsh pansystolic murmur was heard. The liver edge was palpable 6 cm. below the right costal margin. Pitting edema extended up to the knees.

Laboratory data: The urine was yellow, cloudy, acid and had a specific gravity of 1.008, one-plus albuminuria, no sugar or acetone. The microscopic showed numerous WBC/hpf and 5-10 RBC/hpf. Urine culture grew E. coli with a colony count of over 1 million. The hemoglobin was 11.2 gm%, WBC 9,000/mm^3 with 80% neutrophils, 10% lymphocytes and 1% monocytes. There were two nucleated RBC/100 WBC on peripheral smear. The BUN was 87 mg.%. Serum bilirubin 2.5 mg., total, and 1.0 mg./100 ml. direct; total protein 7.8 gm.%, albumin 2.0 gm. The serum electrolytes were normal. SGOT was 36. The one blood culture was negative. A serum alkaline phosphatase was 14.4 B.L. units. The BSP 43% retention.

A chest x-ray was essentially unchanged from previous examinations.

An EKG showed intermittent complete A-V dissociation with low nodal rhythm.

The patient was treated with rigid salt restriction, bed rest, digitalis and diuretics and seemed to be improving slowly. On the morning of 1/22/64 he was found dead. An autopsy was obtained.

Clinical Discussion

Dr. William R. Harlan: This 64 year old normotensive man presented with intractable congestive failure on each admission and had associated episodic fever, weight loss, urinary tract infection and finally hepatic decompensation. There are many

causes of intractable congestive failure: pericardial effusion, recurrent pulmonary emboli, myocarditis, myocardial infarction, digitalis intoxication, structural alterations of the valves or endocardium and bacterial endocarditis. Let us consider some of the possibilities.

As one reviews the illness, it is tempting to make the diagnosis of "arteriosclerotic heart disease" and pyelonephritis. However, there is no evidence for coronary artery disease, a more accurate term. It is becoming clear from epidemiologic studies that this diagnosis should be made on the basis of positive findings rather than using it as diagnosis for unexplained heart failure. There was no history of chest pain and no electrocardiographic evidence of myocardial infarction. The apical murmur was organic, not functional, since it is described as Grade III-V, accompanied by a thrill and harsh in quality.

In reviewing the x-ray films with Dr. Pinson Neal, we agreed that there is apparent calcification of the mitral annulus, although fluoroscopy with an image intensifier would permit us to be more definite. Did he have rheumatic heart disease? Since 50% of adults may not give a history of rheumatic fever, this remains a possibility in this man. However, the calcification was in the annulus and not the valve leaflet and suggests primary calcification of the annulus which is an entity that is associated with mitral insufficiency. The harsh and loud nature of the murmur brings up the possibility of ruptured chordae tendineae and I will return to this possibility later. However, there are several features which cannot be explained by diagnosis of congestive failure secondary to disease of the mitral annulus with mitral insufficiency.

In the presence of the systemic findings of fever and weight loss plus a cardiac murmur, one might make the presumptive diagnosis of bacterial endocarditis. The proper diagnosis of bacterial endocarditis rests on a positive blood culture and this requires that cultures be taken. Until the positive blood cultures are in hand the diagnosis remains only presumptive. The fever in this patient might be explained on the basis of urinary tract infection. We are told that throughout the course of his illness, he was treated ineffectively with sulfonamides, broad spectrum antibiotics, and an indwelling catheter. He continued to have a positive urine culture through the last admission. Friedberg[1] has written "the proposed diagnosis of pyelonephritis in a patient with a murmur, suggests the diagnosis should be endocarditis."

This raises the question of fever in older people: how common it is in endocarditis and how common is endocarditis in older people? Rather than bacterial endocarditis being an unusual disease in older people, it has become a rather common disease. The percentage of patients over 50 with endocarditis is somewhere in the range of 10-50%[2]. Many of these people do not present with fever and many do not have fever at anytime during the course of their illness.

Some of the clinical manifestations in this patient such as hemoptysis on his first admission are suggestive of a pulmonary embolus. The liver function tests also suggest this on his last admission. He had a persistent anemia of varying degree. We cannot tell what type of anemia is present since there is no description of the peripheral smear or other data. He also had an elevation of the BUN which gradually increased. Nucleated red blood cells were seen in the peripheral smear on the last admission. This is not an unusual finding in congestive failure and is a very grave prognostic sign according to Frumin.[3] He felt that the appearance of nucleated red blood cells was a result of hypoxemia due to the extreme congestive failure. An EKG showed a wandering pacemaker and A.V. dissociation. These two findings are most commonly associated with digitalis intoxication or carditis, either rheu-

matic or bacterial. At this point we have many suspicions but we don't have a diagnosis.

On the final admission, some interesting things appear which may bring us closer to the diagnosis. The patient was confused at this time. This brought to mind the article written by Dr. Elam Toone[4] in 1941 in which he pointed out that confusion in an elderly patient was a frequent manifestation of bacterial endocarditis. Dr. Toone suggested that these patients may have an embolic meningoencephalitis and may present as psychotic individuals. Other authors have commented also on this presentation of patients with endocarditis. This patient had no focal neurological signs. Frequently on the neurological wards there are patients with unexplained hemiplegia and murmurs who ultimately are found to have endocarditis.

I interpret the murmur as having changed prior to this last admission and to have become louder. The thrill mentioned earlier was present on the last admission although it wasn't noted on the first admission here. Instead of a Grade III murmur, this murmur is now been graded as IV or V. This suggests some change in the murmur. He had other changes too. The liver, which was palpable and engorged apparently from the congestive failure, was larger. Looking at the laboratory work I would point up the fact that now he had not only the pyuria and a positive urine culture but he also had red blood cells in the urine and proteinuria. The BUN had increased. A leukocytosis had developed with a slight shift to the left. Nucleated red blood cells were seen in the peripheral smear. The bilirubin was 2.5 mg./100 ml. and the serum alkaline phosphatase was elevated to 14.1 Bessey-Lowry units. There was a normal serum transaminase and a very interesting serum protein pattern. People in extreme congestive failure commonly have considerable liver dysfunction. The work of Sheilah Sherlock[5] stresses the hepatic abnormalities found in longstanding or severe acute congestive failure. She makes the additional point that in people with congestive failure and no pulmonary emboli, the mean value of the serum bilirubin is 1.4 and seldom goes over 2.4, whereas in the people with congestive failure and pulmonary emboli the mean serum bilirubin value is 3.2. In her experience this turned out to be a fairly good diagnostic aid. Exceptions to the rule were found in patients with auricular fibrillation and those having very tight mitral stenosis. She observed protein abnormalities, very high elevations of alkaline phosphatase and BSP retention up to 100%. Wacker[6] indicates that with a normal transaminase, an elevated bilirubin and an elevated lactic dehydrogenase level the probability of pulmonary emboli and pulmonary infarction is considerably increased. We have 2/3's of the triad but we do not have a value for lactic dehydrogenase.

I am struck by the total protein of 7.1 gm.% and globulin of 5.1 gm.%, because of an intriguing article by Feinstein and Petersdorf[7] in which they reviewed all the cases of hyperglobulinemia in Yale Hospital in the year 1953. They discovered that a globulin level of less than 5 gm.% was a rather nonspecific finding. We are all familiar with this observation particularly in the patients that we see at St. Philip and E. G. Williams hospitals. However, when the globulin exceeds 5 gm.% it is highly suggestive of specific diseases manifested by hyperglobulinemia such as multiple myeloma, systemic lupus and chronic infections such as tuberculosis and endocarditis. I reviewed the literature in an attempt to determine whether this degree of elevation of globulin had been seen in congestive failure. In congestive failure alone, the serum protein tends to show a slight decrease in albumin and either a slight decrease or a slight increase in globulin. I can find no case that has an elevation as great as 4.5 gm./100 ml. Leaning a lot on this particular value and on the associations in this particular patient,

I would suggest, therefore, that the patient had bacterial endocarditis. We know he has a calcified mitral annulus. I do not believe that his congestive failure is due to this. The bacterial endocarditis may have been due to some organism such as an enterococcus or since he had negative blood cultures, a Bacteroides infection. This latter organism is known to grow very slowly and unless the cultures are followed for two or three weeks, it may be missed. I think his basic disease was bacterial endocarditis and that he had a rupture of the chordae tendineae during the course of the disease. In addition, I believe he had pulmonary emboli and of course, the urinary tract infection which we already know about.

Dr. Saul Kay: Do you mean that the endocarditis is superimposed on some other valvular heart disease?

Dr. Harlan: It does not need to be. Actually up to 50% of older people with bacterial endocarditis do not have underlying rheumatic heart disease.[2] Others may have underlying "arteriosclerotic heart disease," but I am not sure just what this diagnosis means.

Dr. Kay: You are ruling out rheumatic heart disease?

Dr. Harlan: I cannot rule this out because we cannot tell from the x-rays whether the calcification is in the mitral valve or not. I doubt whether it is rheumatic heart disease. I do think are dealing with a calcified annulus.[6]

Dr. Sami Said: What do you think of the history of 40 pound weight loss?

Dr. Harlan: Two things led me to the diagnosis of bacterial endocarditis. One was the recurrent fever and the other was the systemic symptomatology, the most prominent being weight loss in spite of edema formation. In older people, fever is not the outstanding manifestation. The challenge of this disease, of course, is to make a diagnosis before changing murmurs and peripheral emboli are discovered. These manifestations are very late. We now know that we can sterilize the blood stream and valves, but we cannot cure the damage that has been done to the valves or the kidneys prior to treatment.

Dr. Elam C. Toone, Jr.: Disturbances of blood proteins occur quite commonly in subacute bacterial endocarditis. Many of these patients have been found to have a transient rheumatoid factor demonstrable. This is usually detected with the latex and the sensitized sheep cell tests.

Clinical Diagnosis:

1. *Rheumatic heart disease, with congestive heart failure*
2. *Chronic pyelonephritis*

Dr. William R. Harlan's Diagnosis:

1. *Bacterial endocarditis (? enterococcal), ruptured chordae tendineae*
2. *Pyelonephritis*
3. *? Calcification of the mitral annulus*

Pathological Discussion

Dr. Page Hudson: Examination of the heart revealed a dilated and hypertrophied left ventricle and immense dilatation of the left atrium.

These features immediately suggest mitral insufficiency. There were no mitral valve, papillary muscle or chordae tendineae changes that suggested rheumatic fever. There was, however, a ragged 1.5 cm. perforation in the anterior leaflet of the mitral valve. (Fig. 1) An ulcerated lesion that had not perforated was present in the posterior cusp.

In microscopic sections of the edge of the leaflets we could see necrotic debris, polymorphonuclear leukocytes, and Gram positive cocci, most of which were intracellular.

It surprises me that calcification was seen roentgenographically in the heart for there was but minimal mitral annulus calcification. However, an abscess was present in the ring. Plasma cells, multinucleated giant

cells, and polys rimmed the debris. Phagocytosing macrophages, hemosiderin and fibroblasts completed the wall of the abscess. It is claimed that the ring abscess is a relatively common but rarely recognized complication of acute bacterial endocarditis.[9]

Attached to mural and valvular endocardium and several areas were occasional



Fig. 1. The anterior leaflet of the mitral valve shows a large perforation (1) White paper has been placed behind the defect for emphasis. A cut has been made in the anterior portion of the leaflet. Ulcerative vegetations are present on the posterior leaflet at (2). The ring abscess is not seen in this photograph. No pre-existing valvular disease was present.

minute accretions of platelets and fibrin over tiny foci of stromal degeneration. No bacteria were present in these lesions. The same masses are seen in humans and experimental animals exposed to severe stress or high doses of steroids and may in bacterial endocarditis be the *locus minoris resistentiae* for the cardiac infection.[10] I shall refer to this later.

What probably was the sequence of events in this case? This, as Dr. Harlan noted, was a man who was evidentally in good health for many years. There was no evidence clinically or morphologically of old heart disease. Perhaps as a reaction to some form of stress, small sterile areas of degeneration appeared in the endocardium. Bacteria from a transient bacteremia associated with renal infection, dental disease or minor trauma infected one or more of these lesions. Infection progressed on the mitral leaflets and spread to the mitral ring. The valve leaflet disease progressed beyond erosion, ulceration, with likely an aneurysmal dilatation in the anterior leaflet and eventual rupture. The perforation led to the marked mitral insufficiency that was relatively conspicuous clinically. Eventually, when no longer able to compensate for this defect, the individual died with respiratory-cardiac insufficiency, marked pulmonary edema and hydrothorax. No pulmonary emboli were found and there was no evidence of renal disease at the time of autopsy. It is possible that there were pulmonary emboli and pulmonary infarcts that subsequently healed. Certainly they must not have been very large. Thrombus was present in the right auricular appendage and some of this might have been embolic into the lung.

What precedent do we have for this sort of thing? Is this really such a rare variant of bacterial endocarditis? As Dr. Harlan stated it isn't really at all. Perhaps about 20% of the cases that we might classify as subacute bacterial endocarditis show no underlying longstanding pathology in terms of rheumatic heart disease or congenital heart disease or trauma and certainly 50% of the acute bacterial endocardial lesions show no underlying anatomical lesions.[11] 15-20% clinically do not have positive blood cultures.[12] There have been a number of cases that at autopsy showed unruptured aneurysm of a mitral leaflet in association with bacterial endocarditis and valvulitis.[13] Perforation of the mitral leaflet is not a rare finding. More common is perforation in the aortic leaflets.[14]



Fig. 2. One of the minute non-bacterial vegetations present on the mitral endocardium. It is composed largely of fibrin. Similar structures appear on the endocardium in severely stressed experimental animals. These may become infected during transient bacteremia and lead to endocarditis.

The mitral ring abscess is perhaps a rarer entity. Most of the reported cases have been within the antibiotic era.[9] Surgical repair of a mitral perforation has been accomplished in a few instances[15] and it is conceivable that it would have been possible in our case.

What light might experimental bacterial endocarditis show on the pathogenesis of cases such as we had today? It is not difficult to produce endocarditis in animals, even in animals that do not have vascularization in their leaflets as presumably human beings have not. What it does take, though, is a markedly stressful situation whether this trauma, marked change in temperature or large doses of steroids. The first lesions are ground substance or stromal swelling, degeneration and inflammatory cell infiltrate, particularly on the edge of the valve leaflets and principally the mitral leaflets. The small fibrin or platelet thrombi form on these areas. (Fig. 2) When these experimental animals are then subjected to bacteremia, the bacteria settle and grow in these sites.[10] Perhaps that was the situation here. The individual developed a small degenerative

lesion along the mitral leaflet, subsequently small fibrin platelet thrombi formed and bacteria found a home there.

In reference to the comment about Dr. Toone's article on the subject of cerebral disease with bacterial endocarditis, one might refer also to that by Kernohen. Our patient today had a mild cerebral vasculitis. This is not necessarily related to bacterial endocarditis. We do occasionally see the same nonspecific change with a variety of other situations not related to endocarditis. It is extremely likely though, of course, that this was some of the residuum or complication of his cardiac disease.

Dr. Harlan: How long did this man have the disease? It seems probable that when he was first seen in the other hospital, he had this murmur which was due to the calcified mitral annulus and resulted in irregularity of blood flow. During the time when he had manipulative procedures there the enterococcus during a transient bacteremia may have become engrafted on these diseased valves.

Dr. Hudson: It is impossible to be specific about dating these lesions. They probably date back several months. It is entirely conceivable that the perforation existed when he was first seen. Let me point out that his insufficiency was not due to mitral leaflet retraction associated with mitral annulus calcification—the type of lesion described so well by Heggtveit[17] and by Korn, DeSantis and Sell.[8]

Perhaps one of his bouts of acute mitral insufficiency resulted from the frank perforation of the valves itself.

Dr. Harlan: Were postmortem blood cultures or cultures of the leaflets obtained?

Dr. Hudson: In this case unfortunately, the heart blood culture was accidentally contaminated. When plated it yielded several organisms.

Dr. Miles Hench: The enterococcus would certainly be likely the offending organism in the bacterial endocarditis in a man with a genito-urinary tract infection as he had.

Dr. Hudson: True, and enterococcus was one of the organisms from the heart blood culture. The organism seen on Gram stains of the heart valve was consistent morphologically with enterococcus.

Dr. Harlan: As one looks at the presentation of bacterial endocarditis in elderly people, several things stand out. The generalized systemic symptoms are more striking than others except possibly congestive failure. The fever is less prominent in the elderly people; changing murmurs are less prominent; and the embolic phenomena are less prominent. Bacterial endocarditis is a disease one must think of in order to make the diagnosis, because you need six or eight blood cultures without antibiotic therapy, which may cloud the situation. This patient was on antibiotic therapy.

Pathological Diagnosis:

1. *Bacterial endocarditis, active (Gram positive cocci) with perforation of mitral leaf, mitral ring abscess, and mitral insufficency.*
2. *Chronic passive congestion of visceral organs.*
3. *Bronchopneumonia, slight, acute.*
4. *Cerebral vasculitis, mild*

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A Drug for Stroke Treatment

Stroke victims showed greater improvement during recent tests when they were given massive doses of a drug which dilates blood vessels of the brain. The first report of the drug's successful clinical trials on stroke patients appears in the November 29th Journal of the American Medical Association.

The authors are John S. Meyer, M.D., Fumio Gotoh, M.D., John Gilroy, M.D., and Nasaharu Nara, M.D., of Wayne State University and Receiving Hospital, Wayne Center for Cerebrovascular Research and Harper Hospital, Detroit, Mich.

The drug is papaverine hydrochloride, sometimes used as a muscle relaxant, and derived artificially or from opium. Papaverine was found effective in increasing both the blood flow and the amount of oxygen carried by blood to the brain. One of the difficult problems in treating a stroke patient is maintenance of an adequate blood supply to oxygen-starved parts of his brain. When a large blood vessel in the brain is blocked, other smaller vessels reroute blood around the obstruction. Often, however, this "collateral circulation" isn't adequate.

Physicians have searched for a substance which would enlarge the cerebral blood vessels, but which would not dilate peripheral vessels.

Such treatment is important immediately after a stroke. Although it is sometimes possible to correct blood vessel blockages, there is evidence that surgery should be deferred for approximately 10 days in cases of acute stroke.

Delaying surgery allows anticoagulant treatment of the blood to take effect. It is during this 10-day waiting period that papaverine was found useful in maintaining collateral circulation in the brain.

Papaverine was found particularly effective among older patients. The authors suggested this was because blood vessels of younger persons are already more dilated and thus less responsive to the treatment.

Mental Health . . .

CAROLYNNE STEVENS

The Educator as a Mental Health Agent: Dual Role Conflicts

Favoring Mental Health in Classroom

Every phase of our history has demanded something different of the public school teacher. In the beginning we were a raw nation needing to tame a wilderness and to weld the diverse and often dissonant components of the population into some kind of orderly society capable of working and building together. During that period a teacher was stern, strait-laced, and greatly concerned with establishing authority and discipline. Her teaching methods encouraged the child to memorize a given lesson and return it unmolested by his own thoughts.

When we entered our scientific, emancipated era back in the twenties and thirties we arrived at the notion that since scientific detachment worked nicely in the laboratory, it would work equally well in the nursery and in the public school. During this period teachers were expected to be more pleasant than their predecessors but to remain detached, objective, and uninvolved so as to perform their jobs scientifically. During this time technique was often given more attention than content.

During the last ten or fifteen years public school teachers have also accepted, willingly or not, the role of mental health agent. Since good mental health agents have intangible characteristics which are difficult to define, hard to measure, and perhaps impossible to "teach" in the usual fashion, it is little wonder that teachers approach this new role cautiously.

The younger teachers often have the psychological vocabulary and theoretical constructs without real understanding or the ability to apply them comfortably. The older teachers, who were a product of the detached, scientific era, are often baffled by or even hostile toward psychology when they are confronted with the fact that it is as much art as science. These teachers may be dismayed when they are given the vague but perfectly true statement that a prerequisite for being an effective mental health agent is the ability to have free and mature access to one's own emotional experiences and also a high degree of sensitivity to another's emotional experiences.

Although there are still some clinicians (and others) who object to the teacher's assumption of such a role, it is my position that for several reasons it is absolutely essential that the teacher be equipped to assume the role of mental health agent. First of all the mental health needs of the nation are already far greater than can be met by the available numbers of workers from the clinical team (psychiatrists, psychologists, and social workers). Secondly, since practically all children come into close contact with public school teachers, teachers are in the best possible position to carry on a positive prevention program as well as to identify sooner those children and families who may need direct clinical services. Thirdly, many of the normal classroom activities are or could be therapeutic, so with close cooperation between the clinical team and the educator, the handicapped or the non-hospitalized disturbed child might to a greater degree be usefully treated during the regular school day.

And fourthly I feel that the clinical team should offer full support and cooperation

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

to the educator/mental health agent in order to act as a counter force to a somewhat disturbing trend in education today. I am referring to the tendency to lessen direct pupil-teacher interaction as we attempt to utilize the efficiency capabilities of television, teaching machines, etc.

On some of the large college campuses we are already beginning, I fear, to reap some of the consequences of computerized, depersonalized, mass education techniques. We are seeing the poorly identified, frustrated products of such a system begin to flail out at society largely, I believe, to provoke some kind of real and emotional response from the society and thus to assure themselves that they are more than a number on a computer punch card or a passive body in a huge lecture hall. I believe that education consists of learning how to experience and to learn and to think and not of learning a body of information; therefore I question the idea that healthy mental and emotional development from kindergarten through college can take place except from within meaningful human relationships between teacher and learner. In short I would hope that the clinical team will take a positive stand to assure that the use of more machines and mass techniques will, instead of reducing the teacher to impersonal technicians or overseer, really free her to perform the uniquely human tasks of the educator/mental health agent.

Traditional Differences in Roles

In theory the roles of educator and mental health agent are entirely compatible and even complementary. In practice, however, teachers do experience conflict and anxiety. It would seem worthwhile to examine the nature and origin of this role conflict so that the clinical team may be of greater assistance to our newer, largest, and very promising ally.

Perhaps we should begin by recognizing that the teaching profession arose from a different set of needs than did the clinical team. Teachers were created by our society because, as society grew older and more complex, it was no longer possible for the home to pass along to the young all of society's history, traditions, skills, and values. Therefore, consciously or not, the teacher perceives herself as the link between aggregate society and the child. She is society's chief appointed representative and model for the child. (And parenthetically we might remember that this alone is an impossible task in our far from monolithic culture.) It follows then that, consciously or not, the teacher assumes that the purpose of the school is to be an accurate mirror of that society and to serve society by supplying individuals trained in skills required by the society. To be more explicit, she means to serve society essentially as it exists and thinks it is outside her province to take an active part in reshaping society. For example, teachers generally have real or implied prohibitions against being active in politics.

In contrast, the mental health movement has continually evolved from protests against some aspects of society, such as its inhumane treatment of the mentally ill in the eighteenth and nineteenth centuries, its rigid constriction during the Victorian Era, its high pressure during the Atomic Era, and more recently, its depersonalization in an increasingly urbanized, computerized civilization. Therefore a mental health worker will feel that, exercised or not, it is fully within his province to criticize society and to take an active role in reshaping man's social environment.

One result is that while the teacher and the mental health worker each has a commitment to and a concern for both society and the individual, each has a different point of emphasis. The teacher feels primarily responsible for the needs and welfare of the whole society and, by extension, of the school and of the entire class of perhaps thirty pupils. The mental health worker will feel a primary responsibility for the

needs and welfare of the individual or perhaps of a small group such as the family or a business firm. For example, when the space race started with the launch of Sputnik I, our society frantically demanded increasing numbers of future scientists and technicians. The schools felt considerable urgency to emphasize science and mathematics and to try to recruit students into these careers. I am reasonably sure that this idea did not occur to clinicians with respect to their own case loads.

Therefore when a teacher also sees herself as a mental health agent she very often experiences a real conflict of interests and allegiances. She wants to meet the needs of the whole individual child and perhaps to allow certain behavior which may be somewhat unacceptable but which she may see as an essentially healthy response by that particular child at that particular time, or which may be extremely revealing to her as she attempts to gather further information about and understanding of that child. But very often this sort of approach, commendable in her role as a mental health agent, causes damage to her concept of herself as a good teacher and disciplinarian. The end result may be that regardless of what she does she will feel guilty about it, will feel that she failed in her responsibility either to the class or to the individual.

And we might remember that since teachers perceive that their mission is to represent the best, the ideal of our society, they are as a group particularly prone to develop feelings of guilt, failure, or inadequacy. Many of them will agonize over the failure to reach every single child in a class of thirty. This pride system which makes them strive for the ideal often stands in the way of their acceptance of their own human-ness, and this in turn prevents them from using their own human personalities as an instrument of mental health. The education profession hasn't really given adequate support in this area, and I would certainly hate for the clinical team to compound the problem by allowing teachers to set for themselves unreasonable goals in their role as mental health agent. When society fosters in teachers unrealistically high self-demands, the end result is considerable frustration and punitiveness which may be directed either inward onto themselves or onto the youngsters. In either event neither the aims of education nor mental health are served.

Another tremendous area of conflict the dual role creates falls under the headings of philosophy and technique. Again we must bear in mind that teachers generally reflect very strongly the prevailing attitudes and values of our society. And our society's cornerstone is the scientific method of problem solving which in essence consists of a highly intellectualized analysis, quantification, and classification of data. Since this method is so essential to our culture and our economy, we, of course, prize individuals skilled in its use and expect the schools to develop such individuals.

It might be useful to think a little about how the use of this method structures our way of thinking about both problems and people. To employ this method we have to assume that we *can* understand the whole of a thing by careful analysis, quantification, and classification of all the parts. We have to assume that the characteristics of those parts remain relatively static or consistent except as altered by external variables which can also be measured by the same scientific method. We must have a particular sort of person to employ the method —one who is rational, logical, emotionally controlled or detached, practical, and efficient. And finally, our culture assumes that *all* problems will eventually yield to the scientific method if we but gather and study sufficient pertinent data.

The mental health worker, by contrast, is not yet sure that the problem of understanding human relationships is really a suitable problem for the scientific method. He subscribes to the belief that human personality and human relationships are "dy-

namic" in nature. Therefore he cannot assume that part-whole relationships are static. He subscribes to the belief that an amelioration of human problems rests on the ability to become emotionally involved. Therefore he cannot fully employ the scientific method which presupposes emotional control and detachment. And he frequently finds that an act which seems eminently practical and efficient may in fact only postpone or transpose symptoms of the problem.

The mental health worker, of course, does use the scientific method whenever possible, notably in his attempts to develop theories and to gather data about human behavior. However, he does not believe that the structure imposed by the scientific method should completely shape our view of the nature and purpose of man himself. If it can be said that because of this method society attempts to develop the rational man, the mental health agent attempts to develop the whole man, one in whom intellective development is balanced and complemented by emotional development. Society asks what a man does; the mental health agents add, "And why? How does he feel about it?"

Society tends to distrust human feelings simply because they are not so easily analyzed and quantified. Society encourages man to control or hide his feelings lest they interfere with the rationality of his behavior. Society tends to equate feelings with behavior, i.e. it judges that an angry feeling is as dangerous and reprehensible as an angry act.

The mental health agent believes that behavior is used both to reveal and to conceal feelings. Therefore he "distrusts" behavior while trusting feelings as being the most real, the most basic part of man. He believes that human emotions are universal whereas attitudes and behavior are learned within a cultural context. He knows that feelings, even when denied, suppressed, or distorted, continue to exert their influence on behavior. Therefore he believes that a society which suppresses feelings, which is to deny man his basic characteristics, actually threatens the very existence of man as he must be. And finally he cannot accept society's fear of emotion because he knows that orderly behavior and concerned human relatedness grow out of emotional awareness and not out of emotional unawareness.

Pity the teacher trying to straddle these two positions.

Training Programs

For the last three years I have attended meetings for teachers sponsored by the Tennessee Department of Mental Hygiene which is attempting to prepare Tennessee teachers to function more comfortably as mental health agents. These meetings are patterned after the human relations laboratories in Bethel, Maine. The program consists of a combination of lectures and direct interaction in experimental groups. The goals are to give them information about group and individual behavior and to give them the practical experience of relating to others on an emotional level. The hope is that such sensitivity training will permit them to return to their classrooms more able to use themselves as instruments. We hope they will be more able to relate to a child as a whole child reacting in a human way to his whole social environment. We hope that when confronted with a difficult child they will also open to that child rather than only running for a book or an expert. We hope that the teachers will become real partners of the local mental health services (many of whom are represented there), able to make more astute referrals and able to cooperate more effectively in meeting the needs of the disturbed children who remain in the classrooms.

It is an ambitious program and a tremendously exciting one. It is still early to judge how extensive its impact may ultimately be. Some teachers experience dramatic changes in their goals, insights, and tech-

niques; some appear to leave totally unaffected. I remember with affection one teacher who told the group how incompetent she felt when she couldn't comfort a boy whose world was in a shambles because he didn't make the varsity football team. She said that she naturally hadn't had that experience so she knew her words were superficial. The group pointed out to her that failure, rejection, and threat to one's social-sexual role feel pretty much the same whether experienced in the context of sports or in the context of failing to pledge a sorority or failing to attract a prize date for the senior prom. With genuine amazement this teacher said, "You know, I just never thought of it that way". I feel reasonably sure that this year she does not try to analyze into such narrow categories but that instead she is more able to call on her own feelings and experiences to build bridges to her students.

In simplest terms perhaps what we are trying to do is to help teachers to stop seeing themselves and others in terms of rigid, intellectualized stereotypes so that they may gain the emotional freedom to function as whole human beings relating more naturally and feelingly to other human beings. I believe that these workshops constitute an excellent approach to bringing good and effective mental health practices to the largest and youngest segment of our population. Perhaps a similar kind of program might be studied and initiated for Virginia teachers and the children they are molding.

The "New" Woman

The day of the made-to-order woman is almost at hand, according to the British journal, *New Scientist*, noting that such things as pearly false teeth, false eyelashes, wigs, adhesive false eyebrows, and contact lenses that change eye color already are with us.

In addition, plastic surgeons can bob a nose, eliminate a couple of chins, and smooth out wrinkles. Spot reducers can take off some excess fat here, while silicone injections add some there.

"We only need someone to invent Dietrich-type screw-on legs, plug-in Shalimar-pale hands, instant leucotomy to settle their natures, and the age of Artificial Woman will be here," the magazine said.

In the United States, however, silicone injections are illegal, except when administered by authorized medical investigators. Silicones "are regarded as new drugs by the Food and Drug Administration and may not legally be distributed in interstate commerce except under the terms of a claimed investigational drug exemption," warns FDA's Medical Director, Dr. Joseph F. Sadusk, Jr., in a letter in *Archives of Dermatology* (December).

Nationwide publicity has been given to the value of injections of fluid silicones for soft tissue augmentation, including the breasts, and as a result a number of physicians have been approached by prospective patients requesting this type of cosmetic procedure. Because of this interest, the FDA advises: "the technique is regarded as an experimental one, neither the safety nor the efficacy of which has been established." Clinical application should be carried out, Dr. Sadusk said, "only by qualified investigators under auspices of an investigational new drug exemption filed with the Food and Drug Administration."

—*Schering Science Bulletin*

Diagnostic Laboratory Medicine . . . .

Serum Hemoglobin and Myoglobin

Occasions frequently arise where an examination of serum for the presence of abnormal amounts of hemoglobin or its numerous derivatives is required. Very often the kind of information most useful in a given situation is easy to obtain. Frequently, however, the diagnostic or therapeutic point to be investigated requires the application of fairly time-consuming procedures.

Laboratory request slips in both types of situations are apt to be marked simply "Serum Hb." Often this leads to mishandling of the sample in terms of doing less or more than is appropriate on a particular sample. The following brief discussion is intended to clarify certain points that frequently appear to be imperfectly understood.

Normal plasma appears by the most refined methods to contain less than 1 mg% of hemoglobin. Even though hemoglobin is intensely colored, an aqueous solution containing 1 mg% of hemoglobin is indistinguishable visually from water placed in an ordinary test tube. At 10%, although it is obvious that a pigment is present, the color is not clearly red.

Since normal sera differ widely in the concentration and kinds of non-hemoglobin pigments originating from dietary and metabolic sources the concentration of hemoglobin which is recognizable as a slight but definite hemolysis varies from 20 to 40 mg%. Many sera, however, contain so little pigment of any kind that casual inspection can rule out the presence of as much as 15 mg% of hemoglobin. This fact accounts for the frequent report "less than 15 mg% hemoglobin". A good, careful blood drawing technique involving syringes or vacutainer sets and glass test tubes usually results in the release of from 5 to 12 mg% of hemoglobin into the serum. Only by use of polyethylene catheters and containers with non-wetting surfaces can serum with less than 1 mg% be obtained. This implies that good routine handling results in rupture or severe damage to as many as one red cell per 1,000 in the sample. The results of careless handling are obvious not only to serum or plasma hemoglobin but to serum K and many enzyme estimations.

Quantitation of hemoglobin in serum at levels above 10 mg% is easily and quite reliably accomplished by simple direct spectrophotometry using two wavelengths of light and a medium quality instrument (Beckman B or equivalent).

Hemoglobin added to or occurring in serum or plasma in amounts less than 40 mg% normally is bound quite firmly to specific serum proteins called haptoglobins. The number and kind of haptoglobins electrophoretically discernible in a given individual seem to be genetically determined and are of three or four main types. The total quantity of haptoglobin is expressed in terms of the concentration of hemoglobin capable of being bound by them. Binding by haptoglobin does not greatly alter the spectrophotometric properties of the hemoglobin but markedly enhances certain catalytic properties as well as its apparent electrophoretic mobility. These two phenomena serve as means of quantitating haptoglobin. Haptoglobins are usually absent at birth and rise to normal adult level (40-140 mg%) in from one to six months. Absence of haptoglobin occurs not infrequently and may constitute a significant genetic variant. Decreases in haptoglobin are noted in hemolytic anemias.

Hemoglobin in serum present in quantities greater than that capable of being bound by haptoglobin is "free". Free hemoglobin is filterable by the normal glomerulus whereas that bound is not. This

accounts in part for the fact that hemoglobin appears to have a fairly sharp renal threshold.

Haptoglobin-bound hemoglobin is quite stable. "Free hemoglobin", however, undergoes change on standing *in vitro* for a few hours. In the absence of the normal cellular enzyme system which maintains the iron in the reduced form it is oxidized to methemoglobin and then is "deglobinated" to hematin which is immediately bound to albumin as methemalbumin (ferri hemalbumin). The spectrophotometric properties of methemoglobin and of methemalbumin are different from those of hemoglobin and from each other. Methemalbumin may be formed *in vivo* by the action of proteolytic enzymes on sequestered blood or blood pigment with subsequent leakage of free hematin into the circulation. The Shum test is said to be specific for methemalbumin, however, its application to pigment mixtures is tricky and often gives equivocal results.

Myoglobin is spectrophotometrically too similar to hemoglobin to make its recognition easy by this approach. It is bound only to a small extent by serum protein (20 mg%) and its size, one-fourth that of hemoglobin, allows the rapid renal excretion of the free form. Thus a visible red pigment in plasma or serum in the absence of massive urinary pigment loss cannot be attributed to myoglobinemia. Differentiation of urinary myoglobin from hemoglobin is readily accomplished on the basis of the marked solubility differences. However, the identification and quantitation of blood pigments in any but freshly voided urine specimens is fraught with uncertainty and errors due to the myriad chemical changes that can occur in this variable medium.

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Clinical Investigation—Government Style

A new drug may not be shipped across state borders for administration to a human until the sponsor of the drug (who may be the investigator) has filed a request for exemption for such use with the FDA. . . . He must describe and identify the source of the drug and its manufacturer; he must describe previous animal studies with the drug to show that it is reasonably safe to initiate human studies; he must give evidence of his professional qualifications and his facilities for investigation. Finally, the investigator must certify that he will obtain consent from the persons receiving the drug except where this is not feasible or, in the investigator's best judgment, is contrary to the best interest of the subjects. The sponsor must also make progress reports at appropriate intervals, not exceeding a period of one year. He must promptly report any adverse effect which is reasonably regarded as due to the drug. He must maintain records for a period of two years after the drug has been approved or disapproved, or after his investigations have been discontinued. Joseph F. Sadusk, Jr., M.D., to Association of Military Surgeons, November 17, 1965.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Public Health and Industrial Development

In this period of industrial expansion, public health is assuming an increasingly important role. This role has two facets. Not only must public health provide the facilities and services required to attract expanding industry, it must also perform its function of protecting people from the challenges to public health posed by industrial growth.

Virginia has been making, and is continuing to make, a concerted effort to attract industry to the Commonwealth. This effort has been successful and it is expected to be accelerated.

Industrial leaders seeking sites for relocation or establishment of new plants consider the health facilities available of primary importance. The presence of doctors, dentists and related professional persons in one community, and the lack of them in another, can be the deciding point in a company's choice between two sites that otherwise provide comparable inducements. The prospect will wish to know the degrees of cooperation between city and county authorities in health matters; the degree of enforcement of health, safety and sanitation laws; the number of physicians per 1,000 people and the specialists available in addition to general practitioners. In addition, industry is interested in the hospitals available and the types of hospital insurance plans in operation in the area.

The private physician, voluntary health agencies and the State Health Department are working together to provide a medical climate that will meet the needs of an expanding industrial environment. Their efforts have had a direct bearing on Virginia's continuing success in attracting new industry to the State.

Every citizen in Virginia has available to him the services of a full-time health department. Hospital construction, in cooperation with the Hill-Burton program, is providing up-to-date medical facilities; organizations such as the Virginia Council on Health and Medical Care are obtaining physicians and other medical personnel in areas where the need is critical.

Industrialization of an area leads to a growth in the size and density of the population with the consequent problems of:

the possibility of increasing spread of disease from one individual to another;

the increasing frequency of accidents, either on the highway or in the home;

soil, water and air pollution;

the increased need for schools and recreational facilities;

more pets with the increased possibilities of the spread of diseases from animal to man;

refuse and garbage disposal.

How Are These Problems Met?

The local health departments are providing a more healthful environment for the industrial employee through programs of general sanitation. Housing is one of the major capital investments in a community, and the protection of this investment by developing and enforcing minimal housing codes helps in the prevention and correction of slum areas. In the suburban areas, supervision of the construction of water supplies and sewage disposal systems protects the health of the community and helps conserve the water resources.

From a medical standpoint, the numerous local health department clinics, though directed primarily toward the indigent and the medically indigent, help protect everyone in the community by helping to prevent dependency and the spread of disease. Special x-ray survey clinics, set up in the industrial plants, protect the employee not only from exposure to tuberculosis, but frequently find other pulmonary or cardiac conditions in an early stage.

Through the Bureau of Insect and Rodent Control, area sanitation is improved through the regulation of garbage and trash disposal and the prevention of breeding of harmful insects and rodents.

The Bureau of Industrial Hygiene offers consultation and assistance to industries in developing more healthful working conditions. Cooperative efforts between health departments and industry are continually under way to develop effective methods of controlling air pollution, water pollution, food contamination, radiation, and many other mutual problems such as accident prevention and alcoholism.

The Department's school health program involves public health nurses and other public health personnel working toward providing the optimum health service and environment for the school child.

Economic health is directly related to the health of the individual, the community, the State and the Nation. Underdeveloped areas have demonstrated that a satisfactory health level must first be established and maintained in order to support an economically productive society. Thus we see the importance of public health to industrial development. It is absolutely essential.

Monthly Report of Bureau of Communicable Disease Control

	January 1966	January 1965
Brucellosis	1	0
Diphtheria	0	0
Hepatitis	47	64
Measles	144	780
Meningococcocal Infections	4	7
Meningitis (Aseptic)	0	1
Poliomyelitis	0	0
Rabies (In Animals)	21	46
Rocky Mt. Spotted Fever	1	1
Streptococcal Infections	979	1411
Tularemia	2	3
Typhoid Fever	1	0

The Medical Society of Virginia . . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. Alexander McCausland, President, at 2:00 P.M. on Wednesday, December 29, 1965, at Society Headquarters. Attending were: Dr. McCausland, Dr. K. K. Wallace, Dr. Hunter H. McGuire, Jr., Dr. William Grossmann, Dr. Harry J. Warthen, Dr. W. Callier Salley, Dr. Thomas S. Edwards, Dr. F. Ashton Carmines, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. Nash Thompson, Dr. Harry B. Stone, Jr., Dr. Dennis P. McCarty, Dr. W. D. Liddle, Dr. W. W. Walton, and Dr. Michael A. Puzak. Also attending were: Dr. Allen Barker, Delegate to the American Medical Association; Dr. Kinloch Nelson, Dean, Medical College of Virginia; and Mr. John B. Duval, attorney for the Society.

Mr. Duval advised that copies of the proposed bill dealing with the battered child problem had been sent to a number of legislators and interested agencies. Upon the recommendations of some of these interested parties, some amendments had been made to the original bill. For example, it was thought best to include police chiefs of both counties and towns in that section having to do with the reporting of incidents. Also, sexual abuses were included among those matters to be reported. Mr. Duval wanted to make sure that Council had no objection to these changes, and that the Legislative Committee would be permitted to make other changes should it seem advisable. It was agreed that this authority should and could be granted.

Mr. Duval went on to report that he had conferred with State authorities with reference to the Society's liability under the Unemployment Compensation Tax law. It seems, as a result of these conversations, that the Society is definitely liable for the tax and will have to make payment retroactive to 1956. The returns will be prepared by the firm which annually audits the Society's books.

The new Richmond sales tax was discussed at some length, and Mr. Duval expressed the feeling that the Society was entitled to an exemption where publication of The Virginia Medical Monthly is concerned.

Discussed also was that resolution adopted by the House of Delegates in October calling for revision of certain sections of the Virginia pharmacy code. These sections bear on the right of physicians to dispense drugs under certain conditions, and it was agreed that the Legislative Committee is faced with a real problem. In order to find a solution, it was moved by Dr. Wallace that a conference be arranged between the Legislative Committee, representatives of the Virginia Pharmaceutical Association, and the Virginia Board of Medical Examiners. An amendment was then adopted which would include a representative of the Health Insurance Council.

The motion, as amended, was then adopted.

Council was advised that Dr. Edwards has agreed to represent the Society on behalf of the State-Local Hospitalization Program (SLH). As a Society representative, it is quite possible that he will be requested to present his views to a committee of the General Assembly. It was Dr. Edwards' feeling that he should have the official endorsement of Council, and a motion to this effect was moved and adopted.

Dr. McCausland then introduced the main subject of the day—namely, that of recommending a carrier for Part B of the Medicare program. He expressed the feeling that the matter was so important it seemed to require action by the entire Council. He went on to emphasize that Council's decision would be concerned only with Part B of Medicare—not Part A. Part B has to do with those services provided by physicians.

Dr. McCausland stated that the Society's special Medicare Committee had worked long and hard. Three meetings had been held—including one with representatives of twenty component medical societies. Those attending that particular meeting adopted a resolution opposing the prevailing fee concept and, instead, recommending as fiscal intermediary a commerical carrier using the reasonable fee approach. Mentioned was the fact that this resolution passed by the overwhelming majority of 17 to 3.

Dr. McCausland then covered several points which he believed deserved special consideration. The first concerned the advantage to be gained from a carrier using a flexible fee schedule, and the second stressed the importance of the carrier's attitude. It was Dr. McCausland's feeling that any carrier recommended should be willing to back the desire of physicians to bill patients directly—rather than using the assignment method. The third point made by the President was that a carrier should be willing to work to help stem the extension of Medicare to other age groups. Lastly, he pointed out that Council would do well

to seriously consider the action taken by representatives of component societies on December 9. Because of this action, he felt it not appropriate to reconsider Blue Shield.

Dr. John Martin, representing the special Medicare Committee, was then requested to present that Committee's majority report. The report, in the form of a motion, was as follows:

RESOLVED that this Committee recommend to Council that a commercial carrier be nominated as fiscal intermediary under Part B of the Medicare program, and be it further

RESOLVED that the Committee point out that it has interviewed representatives of four commercial insurance companies and suggests that, should Council feel it necessary to nominate a specific carrier, it give serious consideration to the Life Insurance Company of Virginia.

Dr. Martin then received permission to read a minority report signed by two members of the Medicare Committee. This report pointed out that physicians are primarily concerned with the manner in which claims are handled. The experience and special techniques to perform this function properly do not come over night and, consequently, special care should be exercised in selection of a carrier. The report went on to state that the Aetna Casualty and Surety Company is exceptionally well qualified and equipped to provide such services, and is represented in Virginia by 250 agencies. It was pointed out that a reliable trade journal cites Aetna as the No. 1 company in Virginia with respect to group health and accident coverage. The authors expressed the feeling that there would be less chance of the Society's nomination being rejected by H.E.W. should Aetna be the nominee.

A motion was made by Dr. Murrell that the majority report of the Committee be adopted. The motion was seconded.

Dr. Stone then offered a substitute motion that the minority report be adopted, and this also was seconded.

Dr. Wallace thought that it would be best if some consideration could be given to Blue Shield, and this part of the problem settled before final vote on the Committee reports.

Mr. Duval stated that no definite answer had yet been received concerning that portion of the Medicare law which suggested that a carrier could not pay a fee greater than that paid under its fee schedule to regular subscribers. This had been an important consideration during the three meetings of the Medicare Committee.

Dr. Grossmann reported on the deliberations of the Medicare Committee, and indicated that considerable sentiment against predetermined fee schedules had been found. He went on to say that there were a number of factors which had caused component society representatives to recommend a commercial carrier over Blue Shield.

There followed considerable discussion concerning the pros and cons of recommending a commercial carrier. Dr. Murrell cited the Life Insurance Company of Virginia for its work in connection with the Virginia-Carolina Sixty-Five Plan, and reported that it already has a trained staff ready to take over the Medicare assignment.

Dr. Puzak told of his visits to a number of major carriers and stated that none is interested in acting as fiscal intermediary for the whole country. He emphasized that commercial companies have been medicine's staunch friends and allies throughout the Medicare struggle.

The matter of control was raised by Dr. Liddle, and it was his feeling that The Medical Society of Virginia was fortunate in being able to appoint twelve members each year to the Board of the Virginia Medical Service Association.

The question was raised as to whether the Virginia Medical Service Association (Richmond Blue Shield) would be able to act as fiscal intermediary for the entire State should it be appointed by H.E.W. Conflicting statements concerning the intentions of the Roanoke Blue Shield Plan were noted. Dr. Salley indicated, however, that the Virginia Medical Service Association would never be a party to any subcontract not in the best interests of practicing physicians in Virginia. It was his feeling that H.E.W. will never permit a completely "open end" type of fee arrangement. He went on to say that, in his opinion, the Society should refrain from submitting a nomination if it could not, in good conscience, recommend Blue Shield.

Dr. Carmines expressed the opinion that Blue Shield should not become involved in programs administered under Federal contracts. He felt that this would be contrary to Blue Shield philosophy, and certainly not in keeping with its original objectives.

Council was advised that, from all indications, Blue Cross was almost certain to be appointed fiscal intermediary for Part A of the Medicare program. Ninety-five percent of Virginia's hospitals have declared themselves in favor of Blue Cross.

A motion was then made by Dr. Salley to table the motions under consideration. The motion to table was lost for want of a second.

Perfection of the majority report was then proposed by Dr. Thompson as follows:

RESOLVED that Council recommended to the Department of Health, Education and Welfare that a commercial insurance company using the usual and customary fee approach be appointed as carrier to implement Section 8 of the Medicare program; and be it further

RESOLVED that Council recommend (carrier to be decided upon) to be this intermediary.

Dr. Thompson's proposal was adopted (Dr. Salley cast negative vote).

An effort to perfect the substitute motion (minority report) was then made. This would be done by amending the minority report to list the Aetna Casualty and Surety Company as the Society's first choice and the Life Insurance Company of Virginia as second choice. The proposed amendment was seconded and lost by a vote of 7 to 6.

The substitute motion, originally made by Dr. Stone, was then lost by a vote of 7 to 5.

The primary motion was further perfected by a motion to have the second "Resolved" to read as follows: That Council recommend either Aetna Casualty and Surety Company or the Life Insurance Company of Virginia to be this intermediary." The motion to amend was seconded and carried.

Dr. Murrell then introduced an amendment which would list the Life Insurance Company of Virginia as the Society's first choice and the Aetna Casualty and Surety Company as the second. The proposed amendment was seconded and adopted.

The primary motion, as amended, was then adopted as follows:

RESOLVED that The Medical Society of Virginia recommend to the Department of Health, Education and Welfare that a commercial carrier which adheres to the usual and customary fee approach be considered as fiscal intermediary for Part B of the Medicare program; and be it further

RESOLVED that the Life Insurance Company of Virginia be recommended as the Society's first choice, and the Aetna Casualty and Surety Company as its second."

Dr. McCausland advised Council that the 1966 Annual Meeting will unfortunately conflict with election day (November 8). He explained that when the dates were approved over four years ago, no one realized that this would occur. He stated that every effort would be made to encourage members to use the absentee ballot, and that full instructions on how to go about casting an absentee ballot would be provided.

The next matter to be considered had to do with a request that the Society help defray certain legal expenses incurred by the Board of Medical Examiners in its preparation of proposed legislation. It was recalled that the Board had prepared amendments to the Medical Practice Act designed to strengthen those sections having to do with professional discipline. Some thought was given to whether a precedent would be established if a special appropriation should be authorized in this instance. It was stated, however, that this was very much the exception, and would not in any way establish a precedent. It was learned that the Board had been put to a great deal of expense this year, and that one hearing alone had cost approximately $12,000. The feeling was expressed that the Society perhaps had a moral obligation to give the Board some assistance.

A motion to authorize an appropriation of $500 to help defray the cost of the Board's legal expenses was seconded.

An amendment was then offered which would have the motion authorize a contribution to the Board rather than an appropriation. The amendment was seconded and carried.

The motion, as amended, was then adopted.

A suggestion was made that the President write the Virginia Medical Service Association and let it know that Council's decision to recommend a commercial carrier for Medicare was in no way meant as a reflection on the Association. A motion to this effect by Dr. Finch was seconded and adopted.

Dr. McCausland expressed his appreciation of the manner in which the Medicare Committee had handled a most difficult task. He stated that the Committee's next job would be concerned with Title XIX of the Medicare program. Some members of the Committee will represent the Society at a special conference on the subject in Chicago January 20-21. Dr. McCausland also mentioned that Dr. Grossmann had been elected Chairman of the Governor's Advisory Committee on Medicare.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

Approved by:
ALEXANDER MCCAUSLAND, M.D., *President*

Woman's Auxiliary . . . .

President—Mrs. George W. Kelly, Jr., Pulaski
President-Elect—Mrs. Ralph Landes, Danville
First Vice-President—Mrs. William Reardon, Falls Church
Second Vice-President—Mrs. J. R. McGriff, Arlington
Third Vice-President—Mrs. Walter Eskridge, Parksley
Recording Secretary—Mrs. Harold Goodman, Richmond
Corresponding Secretary—Mrs. A. B. Gravatt, Kilmarnock
Treasurer—Mrs. Robert Mitchell, Falls Church
Parliamentarian—Mrs. T. N. Hunnicutt, Newport News
Historian—Mrs. W. Fred Delp, Roanoke
Publicity—Mrs. Daniel Anderson, Norfolk

What Happens on March 30th?

We hope each of you will be busy that day for March 30th is *Doctors' Day*, a project of the Woman's Auxiliary to the Southern Medical Association, adopted by that organization in 1935 as an annual observance. Since membership in Southern is drawn from 16 southern states, Canal Zone, District of Columbia and Puerto Rico, every state in the South observes Doctors' Day and several states outside the southern region also participate in this celebration.

The date of March 30th was not chosen at random, but to commemorate one of the greatest discoveries in medical history. It was on this date in 1842 that Dr. Crawford W. Long, the famous Georgia physician, first used ether as an anesthetic agent in a surgical operation. A statue of Dr. Long is located in the hall leading to the Senate wing of the Capitol in Washington, D. C.

The red carnation is the symbol of Doctors' Day and was adopted by the Auxiliary as the official flower in 1949. It is used wherever plans call for flowers in paying tribute to the members of the medical profession on this day, which is celebrated in their honor.

Doctors' Day in Virginia

Our Virginia Councilor to the Woman's Auxiliary to the Southern Medical Association, Mrs. W. Nash Thompson (Opal) is chairman of Doctors' Day in our State. Opal has contacted all local Doctors' Day chairmen urging them to make their own plans to observe this day and to record them in detail with pictures, newspaper clippings, tributes, invitations and all momentos in the form of a scrapbook or posters. These will become a part of our State Doctors' Day Exhibit at the Southern Auxiliary Convention next fall. Opal hopes to secure a proclamation for Doctors' Day from Governor Godwin and will forward copies to the local chairmen for publicity use.

Some suggestions for local observation of Doctors' Day, Opal has taken from the Handbook from Southern and from our own State reports of last year, as follows:

Since the red carnation is the symbol of Doctors' Day, use it prominently in decorations at dinners, buffets, dances, in churches, hospital reception rooms, doctors' lounges, and on patients' trays with appropriate information.

Offer scholarships to medical students or nurses in memorial observance of Doctors' Day.

Furnish a room in a hospital if there is need for such in your community. A hospital auxiliary in Norfolk furnished a family meditation lounge and dedicated it to a beloved physician then deceased. This ceremony was held on Doctors' Day with the medical Auxiliary sending an arrangement of red carnations for the dedication.

Promote social affairs to build good relationships between doctors' families. While it is preferable that social activities be held on March 30th, it is often not convenient and you should choose your own date on which to entertain your doctors, being careful that any publicity given this social affair will not use the term Doctors' Day and thus confuse the public and detract from the March 30th date.

Other suggestions include a tree planting ceremony, opening of a historic medical

exhibit, or opening of a medical library. Danville-Pittsylvania Auxiliary included flyers in their party invitations urging the doctors to have annual physical check-ups in observance of Doctors' Day. Fairfax Auxiliary prepared large posters on easels which were displayed in the hospital entrance.

Trophies to You

Whatever your plans for observing Doctors' Day, remember to record them in detail to be judged by the Auxiliary to the Southern Medical Association for trophies, monetary awards and honorable mention certificates by the following criteria:

1. How well the observance attained the real purpose of Doctors' Day—that of honoring our physicians.
2. Public relations value.
3. Personal pleasure afforded the doctors through entertainment and tributes.
4. Completeness of report and exhibit giving complete picture of public relations and entertainment features of observance.

Each Auxiliary should read the above criteria and grade their own efforts. Above all, be a participating Auxiliary and make our State 100%. Plan now to be a WINNER!

Mid-Winter Board Meeting:

Our President, Mrs. George Kelly, announces plans for the mid-winter Board Meeting to be held in the conference room of the Medical Society Headquarters, 4205 Dover Road, Richmond. The date is March 17th, a special green carpet for the Irish, and the time is 10 A.M. A box luncheon will be served.

The program will include "Doctors' Day Observance", "Research and Romance of Medicine", "Why AMA-ERF?" and a problem question period. Have your questions ready to fire at your president. Reports of one special event will be given by each Auxiliary President.

All State officers, chairmen, local auxiliary presidents and presidents-elect should make plans now to attend.

AMA-ERF

Our State AMA-ERF Chairman, Mrs. Malcolm H. Harris, reminds us that we now have less than four months to raise our quota for the year. I hope that all Auxiliaries will plan a fund raising project which will bring in good returns. The response so far is very good with sixteen out of twenty-four contributing something and promising more.

Please remember to write all checks payable to "AMA-ERF Auxiliary Fund". And please send directly to Mrs. Harris. Do not mail direct to Chicago.

One county in Minnesota put on a fashion show of fifty years ago intermingled with showing of fashions of today and from this one event raised $1,000 for AMA-ERF.

Much has been written and said about where this money goes and we know that it could not do more good in other places. We do know that other projects are important, but please don't neglect this very important one which really benefits everyone, not just the medical profession. If your son or daughter goes into some phase of medicine, I am sure that you would like to know that there are enough funds for research, student loans and helping our schools to be of better quality.

Projects Around the Old Dominion:

Richmond: Their annual Antique Show and Sale will be held on March 9, 10, and 11 at the Hotel Jefferson in Richmond. This show is a favorite of exhibitors and spectators alike and always includes many out-of-state displays. Tickets are available at the door. Proceeds go to Crippled Children's Hospital and Sheltering Arms Hospital, both State auxiliary benevolences.

Last fall, this auxiliary held its annual Community Service Luncheon, entertaining

approximately 50 presidents of various civic and service organizations in the Richmond area.

Arlington Together with Alexandria

These Auxiliaries held their regular meeting this month at the Longworth House Office Building in Washington, D.C. Luncheon was in the District of Columbia Committee Hearing room. Congressman Joel Broyhill, representative from the Northern Virginia area, joined them for coffee and dessert. Mr. Broyhill is a member of the powerful Ways-and-Means Committee and the District of Columbia Committee.

Mr. Broyhill praised the projects of AMPAC and VAMPAC, pointing out the benefits derived from these worthwhile organizations. He also stated that if the other states had followed along as Virginia had done, legislation would be "further along". "The majority of physicians are too busy administering to the sick to politic in their own behalf. Therefore, they need every Congressman and Senator on their side to present their views to the American public, who are badly informed on medicine and medical care." Such a bill as Medicare proves this point. These doctors' wives were told that they owe it to their husbands to join, individually, this most worthwhile project. Won't you send in your membership and check today if you are not a member of AMPAC and VAMPAC?

A question and answer period concluded the meeting and members were taken on a tour of the Longworth and Rayburn House Office Buildings. They could not help but be impressed with such a magnificent project as the controversial Rayburn building even though so much has been written about its architecture, practicality and cost.

Have You Checked Your Advertisers Recently?

If it were not for the advertisers the Virginia Medical Monthly would not be able to keep up its good standards and try to provide its readers with what they really want. Of course, we could publish a journal without advertising but it would have to be very small and some other means of financing would be necessary—such as an increase in dues!

During the past couple of years, due to various government activities in the drug industry, our advertising has dropped off considerably but we hope has hit the bottom and is now on the upgrade. We can't say too much for the many advertisers who have continued to support the journal during this crisis and they will always be "tops" in our estimate. Some of our old advertisers and some new ones are gradually coming back in our pages.

Have you looked at the advertising pages recently? This should be part of your continuing education—how else can you keep abreast of new drugs, equipment, hospitals, etc. And, of course, we think you should patronize those who support us!

Current Currents

PART "B" CARRIER: The Life Insurance Company of Virginia has been named carrier for Part "B" of Medicare in Virginia. The appointment by the Secretary of Health, Education and Welfare is in keeping with a recommendation from The Medical Society of Virginia.

HOSPITALS AND MEDICARE: The Secretary of Health, Education and Welfare has announced the conditions for participation by hospitals under the Medicare program. These conditions are based on recommendations of the Health Insurance Benefits Advisory Committee—a sixteen member, non-federal group appointed by the President last year. The conditions, for the most part, were modeled after the requirements of the Joint Committee on Accreditation of Hospitals, and will permit a hospital accredited by the Commission to qualify automatically for Medicare participation providing it has an arrangement for reviewing the use of its facilities.

Secretary Gardner has pointed out that a state agency may recommend that a hospital be declared eligible for participation if:

1. It is accredited by the Joint Commission and has, or will have, in effect by July 1, a utilization review plan; or

2. It is operated in accordance with the conditions of participation with no significant deficiencies; or

3. It is found to have deficiencies but is making reasonable plans and efforts to correct them and is rendering adequate care without hazard to the health and safety of patients.

HEALTH COSTS: According to a recent release by the U. S. Department of Commerce, Americans in 1964 spent more on cigarets and other tobacco products ($7.8 billion) than on hospital care ($7.6 billion), and more on such items as cosmetics, haircuts, and other items of personal care ($7.0 billion) than on doctors' bills ($6.7 billion).

A total of $25.2 billion was spent for health care in 1964, which represents an increase of 7.7% over 1963. Recent figures indicate that the largest portion of health care expenditures went for hospital care ($7.6 billion), while physicians' services were next with $6.7 billion. Total consumer spending for all goods and services, including health care, climbed from $373.8 billion in 1963 to $398.9 billion in 1964, or an increase of 6.7%.

DRUG REGULATION: The Drug Abuse Amendments of 1965 have been in effect since February 1. The law amends the Food and Drug Act to provide for the control of the manufacture, distribution, sale and possession of depressant and stimulant drugs.

Of special interest to physicians are the record-keeping requirements which call for a complete history of the drug, beginning with its manufacture and ending with a notation to whom it was dispensed. It should be pointed out, however, that these record-keeping requirements do not apply to a "licensed practitioner . . . with respect to any depressant or stimulant drug received, prepared, processed, administered or dispensed by him in the course of his professional practice, unless such practitioner regularly engages in dispensing any such drug or drugs to his patients for which they are charged, either separately or together with charges for other professional services."

In its testimony before the House Interstate and Foreign Commerce Committee last year, the AMA objected to the physician record-keeping provisions, and the vagueness of the term "dispensing physician", since it could include almost all practicing physicians. The regulations now state that: "The maintaining of small supplies of these drugs for dispensing or administering in the course of professional practice in emergency or special situations (for example, as a stopgap measure to tide patients over until a regular supply of drugs can be obtained by prescription from a pharmacy, or dispensing as trial doses to patients), will not be considered as regularly engaged in dispensing for a fee."

INTERNATIONAL HEALTH: President Johnson has delivered a message on International Health and Education to the Congress. His announced intention is to establish an international career service in health composed of a "Select Corps of International Health Associates". The new program would provide (1) for Public Health Service grants to medical schools for the purpose of increasing by at least 500, during the first year, the number of graduate students preparing to participate in international health activities; (2) the Public Health Service would be charged with the responsbility of recruiting at least 100 young professionals in the health disciplines (including dentists and nurses as well as M.D.'s) who would serve with the Agency for International Development, the Peace Corps, and various international organizations; (3) a program of fellows in international health with 50 special fellowships to be awarded to the best qualified young Americans with previous experience overseas and a demonstrated capacity for leadership; and (4) the building of a Career Service Corps competent to sustain the international health programs in which this country participates. . . . In order to strengthen medical and health training institutions in developing nations, the President requested the doubling of the present AID program, and has asked the Peace Corps to provide more volunteers for service in the health manpower programs of developing nations.

The cost of the President's proposed international program has been set at $524 million for fiscal 1967. Of this amount, $354 million is earmarked for foreign aid programs, $130 million for HEW programs, $11 million for Peace Corps programs, and $53 million for State Department cultural and educational programs.

DID YOU KNOW? Coffee was prescribed as a medicine before it was used as a beverage.

Editorial . . . .

Will There Be a Place for Nurse-Midwives?

THE PLANNERS tell us that there is going to be a sizable doctor shortage in a few years. Certainly when all the plans of the Planners (including medicare, regional health centers, and what not) have been implemented there can be no other result. Obviously, as usual, we doctors are going to be blamed. We shall be accused of discouraging prospective medical students for selfish motives, of prolonging medical education beyond reason, and so on. And only we will understand the falsity of these future taunts.

Is there any good way of spreading the doctor supply? Is there any way of preventing a twenty percent increase in our work load? In rural and small city communities such an increase would present an impossible problem in the event of the death or illness of colleagues. There is a movement in the undeveloped, so-called nations, to train "assistant doctors" to meet their shortages. Would the training of such aides be of value in America? The answer involves such considerations as patient acceptance, limits of responsibility, and an amount of education not too much less than that of physicians themselves. An example here is the nurse-anesthetist who is accepted well enough, has great responsibility, must have had five or more years of schooling, and is well paid. Anesthesia, county-wide, would be impossible without the nurse-anesthetist.

Another possibility comes to mind in the person of the nurse-midwife. The old-fashioned uneducated midwife is fast disappearing. Prenatal clinics have educated the poor who once employed them, and the ease of getting to a hospital where an intern or staff doctor will deliver them has eliminated the granny almost completely in many areas where she was popular even a decade ago. The nurse-midwife is a far different person. She has had at least a year of intensive training beyond her nursing course. She is quite competent to follow women in labor and able to deliver a normal parturient. Her counterparts in England deliver a large percentage of women, in the home, and with superior results. The English midwives are well-trained and carefully supervised.

Here the situation is different. Physicians deliver the majority of babies in America. We have built our image very well and a reversal is unlikely. We hardly wish to change it. A normal parturient is a blessing to her physician: for one thing, she softens the sting of the abnormal ones. Private patients will always be private patients—we hope.

But what of the flood of indigent patients who have turned from and will turn from their old grannies and are pouring into the hundreds of excellent community hospitals which are unable to find interns? One month the writer delivered twenty of these women whom he had never seen before, most of whom just dropped into the emergency room in labor, without having had any prenatal care. Such a load on top of a normal practice plays havoc with rest, to say nothing of office hours. As

fewer general practitioners do deliveries—such is the trend I see—more women yet will seek the care of obstetricians. The birth rate may be levelling off (not especially among the indigent), but there are more women to have babies. The case load is certain to increase. Where will be the point of overloading, doctors' health wise, as well as patient care wise?

Perhaps our salvation will be the nurse-midwife. She probably would have no appeal to the obstetrician in the large city, spoiled as he is by the presence of an adequate house staff. But we in smaller places must one day have the equivalent of interns, the trained, perhaps certified, nurse-midwife.

Her duties? She could deliver the normal "drop-ins" and the clinic patients, who would know about her services in advance. She would break the doctors' rest only for abnormalities. In the care of private patients she would act as a competent second-year intern or assistant resident. She would handle precipitations competently. She would gauge the progress of labor so well that the obstetrician would feel free to sleep or to stay in his office a little longer handling that mounting load.

If the nurse-midwife here visualized as an assistant doctor became as well accepted as the nurse-anesthetist how much call would there be for her services? There are 7,100 hospitals in the United States. Of these, 4,200 are accredited by the Joint Commission. For the moment let us only consider the latter. There are less than 2,000 residency and internship programs in force. Many of these are on paper only because of the intern scarcity. If, however, to be on the low side, we assume that there are 2,200 approved hospitals offering maternity services but having no interns, we can arrive at a figure of 11,000 nurse-midwives potentially needed in the United States to make less thin the obstetrician supply a generation hence. Adequate coverage could hardly be accomplished with fewer than five per hospital. This figure obviously does not include the thousands who could be used in the non-accredited hospitals and in the little rural clinics where many deliveries are done.

To many an aging obstetrician all this should be a rosy dream indeed. How practical is it? First the cost. Such assistant doctors would have to be given incentive pay commensurate with their responsibilities: $600 to $700 a month? More a generation hence? Where are the nurses to come from for such a profession? Many hospitals wings are closed now for lack of nurses. Where are the training schools for such midwives? There are presently hardly a handful in the United States. Dozens would be needed. Would the demands for patient material for midwife training compete with those for medical students and intern training? These are questions which would have to be explored by administrators and nursing educators.

Of equal importance would be other questions. Would nurse-midwifery interest enough young women to make large teaching programs practical? And would these young women be willing to "bury themselves" in small cities and rural communities? Again, nurses graduate to

marriage so quickly that one often wonders how much point there is in extensive nursing education.

This all may be the dream of a periodically exhausted obstetrician. The major problem would be the supply of nurses. And this fact emphasizes the most alluring opportunity in America today: participation in what may be called the Service Industry, which includes everything from catering to teaching the young and serving the ill and aged.

GORDON W. JONES, M.D.

Salmonellosis, an Increasing Threat

THE INCIDENCE OF SALMONELLA INFECTIONS has increased greatly throughout the United States during the past few years. This condition, which was considered a medical oddity in Virginia until recently, is now encountered with increasing frequency throughout the State. Elsewhere in this issue of the Virginia Medical Monthly two surgical cases are reported in which Salmonella infections played a major role in the causation or intensification of symptoms.

The magnitude of the problem was highlighted by a seminar on salmonellosis held in New York recently and reported in the January 31 issue of *Medical Tribune*. James H. Steele, D.V.M., stated that the number of reported infections rose from 7,000 in 1960 to more than 21,000 in 1964 and he estimated that there would probably be 100,000 cases annually by the end of the present decade. He pointed out that these figures do not reflect the true incidence of this condition for the vast majority of cases are not recognized.

Poultry, beef, pork, eggs and egg products are the chief sources of human infection. Every instance of severe, persistent diarrhea should have a stool culture. Fortunately the condition is generally self-limited but the very young and the very old are especially susceptible and the many nursing homes that are springing up on every hand will doubtless prove seed-beds for future infections. About one out of every four hundred who develop the infection will become chronic carriers. Figures are not available as to how many of these carriers will become cooks and food handlers but the incidence appears to be higher than the normal expectancy. Why this affinity should exist is not clear but it seems to be true nevertheless.

There has been little change in therapy during recent years. Chloramphenicol is still considered to be the most reliable drug, especially in treating the more serious manifestations of the disease. Ampicillin has given encouraging results in the eradication of chronic carrier states but its value has not been proven definitely. The best safeguard at the present time is careful policing of food handlers and food stuffs, a high index of suspicion in persisting diarrheas and a willingness to obtain stool cultures in all questionable cases.

H.J.W.

News . . . .

Calendar of Events

Virginia Council on Health and Medical Care—Nutrition Forum—Thalhimers, Richmond—March 14-15, 1966.

Northern Virginia Clinical Assembly—Marriott Key Bridges Motor Hotel, Arlington—March 16, 1966.

Medico-Legal Workshop—Tidewater Memorial Hospital, Tappahannock—March 17, 1966.

Virginia Tuberculosis and Respiratory Disease Association—Annual Meeting—Marriott Twin Bridges Hotel, Arlington—March 21-23, 1966.

Tri-State Conference on Pulmonary Diseases—Hotel Roanoke, Roanoke—March 27-29, 1966.

National Society for The Prevention of Blindness—Hotel Roosevelt, New York, New York—March 30-April 1, 1966.

Louise Obici Memorial Hospital Clinical Conference—Louise Obici Memorial Hospital, Suffolk—April 6, 1966.

Carolinas-Virginia Hospital Conference—Hotel Roanoke, Roanoke—April 14-15, 1966.

AMA Legal Conference—Hotel Continental, Chicago, Illinois—April 14-16, 1966.

Virginia Society of Anesthesiologists—3rd Annual Spring Scientific Meeting—Sheraton Motor Inn, Richmond—April 16-17, 1966.

American College of Physicians—Annual Meeting—Americana Hotel, New York, New York—April 18-22, 1966.

American Academy of Pediatrics—Spring Session—Queen Elizabeth Hotel, Montreal, Canada—April 25-27, 1966.

Virginia Society of Ophthalmology and Otolaryngology—Annual Meeting—Charlottesville—April 28-30, 1966.

Virginia Public Health Conference—Hotel Roanoke, Roanoke—May 3-6, 1966.

Virginia Academy of General Practice—16th Annual Scientific Assembly—Hotel Roanoke, Roanoke—May 12-15, 1966.

Tennessee Heart Association—Scientific Session—Gatlinburg, Tennessee—May 19-21, 1966.

Virginia Heart Association—Annual Meeting—Natural Bridge—May 20-21, 1966.

AMPAC National Workshop—Sheraton Park Hotel, Washington, D. C.—May 21-22, 1966.

Medical College of Virginia Alumni Association—Annual Meeting—Hotel John Marshall, Richmond—June 4-5, 1966.

7th Annual Symposium on Clinical Aspects of Renal Disease—Ischemic Heart Disease and Cardiac Diagnosis—Sponsored by Tidewater Heart Association & Council on Clinical Cardiology, American Heart Association—Cavalier Hotel, Virginia Beach—June 30-July 2, 1966.

Virginia Medical Service Association—Annual Meeting—Williamsburg—July 15, 1966.

New Members.

The following new members were received into The Medical Society of Virginia during the month of January:

Fathy Amin Abdou, M.D., Norfolk
Dan G. Albert, M.D., McLean
Bartolo Mariano Barone, M.D., Arlington
Floyd Eugene Boys, M.D., Charlottesville
Robert Singleton Bryant, M.D., Harrisonburg
Prentiss M. Dettman, M.D., Richmond
Julian Baynard Ellis, M.D., Norfolk
Julio H. Garcia, M.D., Richmond
F. Baldwin Harrington, M.D., Fredericksburg
Stuart Horsley Harris, Jr., M.D., Lynchburg
M. A. Kern, M.D., Petersburg
Lawrence V. Marshall, M.D., Floyd
Robert P. Nirschl, M.D., Arlington
George Emmett Pritchard, M.D., Richmond
Gwen Janette Scott, M.D., Winchester
Jim Scow, M.D., Hampton
Dan L. Weston, M.D., Charlottesville
C. Johnston Willis, M.D., Crewe

Fairfax County Medical Society.

Dr. Robert L. Guillaudeu has been installed as president of this Society. Dr. Edward J. Gallagher has been named president-elect; Dr. C. Barrie Cook, vice-president; Dr. Marion E. Espinola, secretary; Dr. M. Mendel Bocknek, treasurer; and Drs. Donald S. Thorn and Thomas M. Wright, executive committeemen at large.

Alleghany-Bath County Medical Society.

Dr. Walter E. Vermilya is president for 1966 with Dr. George N. Chucker re-elected secretary. Both are from Clifton Forge.

Buchanan-Dickenson County Medical Society.

Dr. Thomas J. Penn, Grundy, is the president of this Society for 1966, and Dr. Ralph W. Hess, also of Grundy, has been re-elected secretary.

Dr. Mulholland Honored.

The Piedmont Area Lay Society of the Virginia Diabetes Association has presented Dr. Henry B. Mulholland, Charlottesville, a life membership for his interest in the Society. He was one of those instrumental in forming the society in Charlottesville and is serving as a principal advisor of the group.

New Dean at Medical College of Virginia.

Dr. Daniel T. Watts, chairman of the pharmacology department of West Virginia University Medical Center, has been named dean of the school of graduate studies of the Medical College of Virginia. His appointment will be effective July 1st. Dr. Watts will succeed Dr. Ebbe C. Hoff who will devote his time to teaching and research activities.

Dr. Charles L. Crockett, Jr.,

Has assumed his duties as assistant dean of medicine at the University of Virginia. He heads the continuing education program for practicing physicians. Dr. Crockett had practiced in Roanoke since 1951.

Northern Virginia Clinical Assembly.

The 17th Annual Assembly will be held at Marriott Key Bridge Motor Hotel, Arlington, on March 16th. The faculty will be from Temple University School of Medicine and the program will be as follows: Differential Diagnosis of Breast Masses by Dr. George P. Rosemond and Dr. Marc S. Lapayowker; Newer Insights in Respiratory Allergies in Children by Dr. Victor Vaughan, II; Diagnosis and Treatment of Superficial Fungus Infections of the Skin by Dr. Waine Johnson; Treatment of Patients with Intractable Dyspnea by Drs. Philip Kimbel and R. Bruce Sloan; Reversible



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diphenoxylate hydrochloride .....2.5 mg.
(Warning: may be habit forming)
atropine sulfate .....0.025 mg.

Dosage: For full therapeutic effect—Rx full therapeutic dosage. The recommended initial *daily dosages,* given in divided doses, until diarrhea is controlled, are:

Children:

3 to 6 months—3 mg. (½ tsp* t.i.d.)
6 to 12 months—4 mg. (½ tsp. q.i.d.)
1 to 2 years—5 mg. (½ tsp. 5 times daily)
2 to 5 years—6 mg. (1 tsp. t.i.d.)
5 to 8 years—8 mg. (1 tsp. q.i.d.)
8 to 12 years—10 mg. (1 tsp. 5 times daily)

Adults: 20 mg. (2 tsp. 5 times daily or 2 tablets 4 times daily)

*Based on 4 cc. per teaspoonful.

Maintenance dosage may be as low as one fourth the therapeutic dose.

Precautions: Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is an exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. The subtherapeutic amount of atropine is added to discourage deliberate overdosage.

Side Effects: Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness and insomnia.

1. Janssen, P. A. J., and Jageneau, A. H.: A New Series of Potent Analgesics: Dextro 2:2-Diphenyl-3-Methyl-4-Morpholinobutyryl-pyrrolidine and Related Amides. Part 1: Chemical Structure and Pharmacological Activity, J. Pharm. Pharmacol. 9:381-400 (June) 1957.

2. Demeulenaere, L.: Action du R 1132 sur le transit gastro-intestinal, Acta Gastroent. Belg. 21:674-680 (Sept.-Oct.) 1958.

SEARLE

Research in the Service of Medicine

Pulmonary Disease by Dr. George I. Blumstein; Cardiac Dyspnea by Dr. Felix Cortes; The Dyspnea of Chronic Obstructive Lung Disease by Dr. Howard Baier; The Role of Rehabilitation in Advanced Emphysema by Dr. Philip Kimbel; Physical Medicine in Office Practice by Dr. Bernard Sandler; The Diagnosis and Treatment of Hearing Loss in Children and Adults by Dr. Max Ronis; and Toxemia of Pregnancy by Dr. Russell R. deAlvarez.

Culpeper Hospital Staff.

Dr. Cecil G. Finney has been elected president of the Culpeper Memorial Hospital medical staff; Dr. G. F. Henson is vice-president and Dr. Alfred B. Cramer, III, secretary-treasurer.

Dr. Carl W. LaFratta

Has been appointed chief of physical medicine and rehabilitation at McGuire Veterans Administration Hospital, Richmond, and assumed his duties on January 30th. He has been at the VA Center in Hampton where he has been serving in the same capacity as his present appointment.

Regional Medical Programs.

Drs. Ralph G. Beachley and Lloyd B. Burk, Jr., both of Arlington, were appointed by Governor A. S. Harrison to the State Wide Advisory Committee for planning for regional medical programs in Virginia. Other members of the committee are Dr. Kenneth R. Crispell, Charlottesville, and Dr. Kinloch Nelson, Richmond.

Virginia Association of Medical Assistants.

The Board of Directors of this Association met with the following advisors on January 23rd in Richmond: Mr. Robert Howard, Executive Secretary of The Medical Society of Virginia; Dr. John Thiemeyer, Norfolk; Dr. John Jarratt, Medical Director of the C. & P. Telephone Company, Richmond; and Dr. John Wyatt Davis, Jr., National Advisor of the American Association of Medical Assistants, Lynchburg.

It was gratifying to see the smoothness with which this Board operates and the expediency with which they handle their problems and business affairs.

The VAMA is conducting a Teaching Seminar at the Admiralty Motor Hotel, Norfolk, May 22nd. The program committee refused to divulge the nature of the meeting and urged that for complete information attendance at this meeting will be necessary. The registration fee is $5.00 which, like the local, State and national dues, if paid by the employing physician, is *Tax Deductible*. It is suggested that as many of our Virginia doctors as possible urge their personnel, if not already members, to join and attend this Seminar.

John Wyatt Davis, Jr., M.D.

The American Geriatric Society

Announces the renewal of three $1800.00 grants to encourage resident physicians to devote more time to the study of the medical problems of the aging. The grants will supplement the salaries paid to resident physicians while they continue their medical education and are made possible by Lederle Laboratories, a division of American Cyanamid Company.

These supplements will cover the period between July 1966 to June 1967. Applications for the grants should be addressed to the Chairman, Fellowship Committee, American Geriatrics Society, 10 Columbus Circle, New York, New York. Deadline for applications is June 1, 1966.

Position Available.

Chief of Maternal and Child Health. Male or female, age 50 or under. Graduation from medical school, eligible for license

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Contraindications: Complete renal shutdown, rising azotemia or development of hyperkalemia or acidosis in severe renal disease.

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Under 35. For twenty-partner Southern California specialty group. Partnership potential after first year. Administrator, Gallatin Medical Group, 10720 South Paramount, Downey, California. (*Adv.*)

Urologist Wanted

For specialty group in California. Write #65, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Surgeon Desires Location.

General surgeon, age 31, married, desires location or association in Virginia. Available July 1966. Write "Surgeon," care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia, 23221. (*Adv.*)

Obituaries . . .

Dr. Benjamin Clinton Shuler,

Shenandoah, died January 16th, having been in ill health for several years. He was eighty-five years of age and graduated from the former University College of Medicine, Richmond, in 1903. Dr. Shuler was a native of and spent his entire life in Shenandoah, beginning his practice there immediately after his graduation. He served as Mayor and was on the Page County School Board. Dr. Shuler was honored in 1953 for fifty years in the practice of medicine at "Dr. Shuler Day" held at the Shenandoah Memorial Stadium. During his many years of practice, he delivered three generations of children and attended over 4,500 births. Dr. Shuler had been a member of The Medical Society of Virginia since 1915.

He is survived by his wife and two sons. Dr. and Mrs. Shuler had celebrated their 57th wedding anniversary on January 12th.

Dr. Jack Stone Shaver,

Waynesboro, died January 26th, at the age of forty-five. He was a graduate of the Medical College of Virginia in 1944 and practiced at Woodstock from 1956 to 1964 when he moved to Waynesboro. Dr. Shaver was a former president of the medical staff of the Shenandoah County Memorial Hospital in Woodstock, a past director of the Shenandoah Area Industrial Development Corporation and the Woodstock Chamber of Commerce and a former member of the Shenandoah County TB Association. He was a veteran of World War II. Dr. Shaver had been a member of The Medical Society of Virginia since 1950.

His wife and two sons survive him.

Dr. Latané

Henry Augustine Latané was born in Westmoreland County, on April 4, 1885. He was a direct descendant of Augustine Washington the half-brother of our first president, George Washington. His early education was received at Worthland School and Episcopal High School in Alexandria where he was graduated with honors. He took pre-medical studies at the University of Virginia and then entered the University of Virginia School of Medicine where he graduated in 1912.

Dr. Latané served his internship at the City Hospital in Baltimore, Maryland, and then trained at the Maryland State Sanatorium. He then served as medical officer at the New Jersey State Sanatorium, which he left to train at the Metropolitan Life Insurance Company Sanatorium at McGreggor, New York.

From 1918 to 1920 he served as a Lieutenant in the U. S. Army Medical Corps and following his

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IN BRIEF:

Indications: In depression of any kind—neurotic and psychotic depressive reactions; manic-depressive or involutional psychotic reactions.

Contraindications and Precautions: Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease and epilepsy. Should not be given within two weeks of treatment with a monoamine oxidase inhibitor. Safety in human pregnancy has not been established.

Adverse Effects: Side effects, usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste," sensory illusion, tinnitus, agitation and stimulation, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, allergy, transient eosinophilia, granulopenia, altered liver function, ataxia and extrapyramidal signs.

Supplied: Norpramin (desipramine hydrochloride) tablets of 25 mg., in bottles of 50, 500 and 1000.

honorable discharge from the Army, he entered the private practice of medicine in Alexandria.

Dr. Latané became a member of the Medical Staff of the Alexandria Hospital in 1920 and founded the laboratory in that hospital. He was chief of the Medical Service for fifteen years and twice was president of the Medical Staff.

He was one of the founders of Circle Terrace Hospital and for years served as President of the Board of Directors of the Hospital.

Dr. Latané established a tuberculosis clinic in Loudoun County in 1922 and shortly thereafter he established Tuberculosis Clinics in Arlington County and Alexandria.

In addition, Dr. Latané was a member of the American Academy of General Practice, the American Medical Association, the Southern Medical Association, the Trudeau Society, the American College of Chest Physicians, the Alexandria Medical Society and The Medical Society of Virginia. He was formerly Vice-President of The Medical Society of Virginia. During World War II he served as Chairman of the local Selective Service Medical Appeal Board. He was a charter member of and past President of the Alexandria Rotary Club; Alexandria-Washington Lodge A. F. and A. M.; and was a vestryman of Christ Episcopal Church in Alexandria. In 1951 Dr. Latané was named "General Practitioner of the Year" by The Medical Society of Virginia.

Whereas, Dr. Latané was beloved by his many friends, professional colleagues and patients to whom he provided devoted care, and

Whereas, all people who knew him found inspiration in his kindly zeal and will everlastingly memorialize his many achievements;

Therefore Be It Resolved, that the Medical Staff of the Circle Terrace Hospital express gratitude for his earthly presence;

And Be It Further Resolved, that a copy of this resolution be forever recorded in the records of the Medical Staff of the Circle Terrace Hospital and copies be forwarded to the Virginia Medical Monthly and presented to the family of Dr. Latané with the profound sympathy of the members of the Medical Staff of the Circle Terrace Hospital.

Carson Lee Fifer, M.D.
Philip Austin, M.D.
Richard E. Palmer, M.D.

Dr. Thornton.

Whereas, on August 3, 1965, The Great Physician, in His Infinite Judgement and Wisdom saw fit to remove from our midst our beloved and respected Walter Forest Thornton,

And Whereas, we had the pleasures, joys, and privileges of having been associated with Walter since 1937,

And Whereas, he rendered a most valuable service to the medical profession at a time when a radiologist was more than an assistant diagnostician, but in fact a Good Man Friday, and also a topnotch first assistant in the care of our patients,

And Whereas, he was an extraordinary civic minded citizen and was always ready and more than willing to render services to the citizens of Lynchburg and the surrounding community beyond those obligations incorporated in the Hippocratic Oath,

And Whereas, his untimely passing will be moaned and his always cheerful help will be missed by both the Lynchburg Academy of Medicine as well as the public at large.

Therefore, Be It Resolved that a copy of this resolution be made permanent in the minutes of the Lynchburg Academy of Medicine and a copy sent to Mrs. Thornton and her family.

John Wyatt Davis, Jr., M.D.
Warren W. Koontz, M.D.
L. Bradford Waters, M.D.

Dr. Hoskins.

John Hundley Hoskins, M.D., died November 13, 1965, at the age of 73 of complications following a long period of invalidism from cardio-vascular disease. He had practiced in Lynchburg since 1924, faithfully serving a large and loyal general practice, until his retirement on account of illness in 1960.

He was a graduate of The Medical College of Virginia in 1915 and had manifested his interest in his profession by taking graduate work in Otolaryngology, Urology and Surgery. His retirement from practice in 1960 concluded locally the era of the general practitioner who served his patients in all the branches of medical practice.

Dr. Hoskins is survived by his wife, Mrs. Emma Kelly Hoskins, two daughters, Mrs. Wistar M. Heald, Jr., and Miss Elizabeth Garnett Hoskins, and a son, Richard K. Hoskins and four grandchildren.

He will be greatly missed by those who cherished his friendliness, his faithfulness, his loyalty and his genuine interest in his patients and friends.

F. R. Whitehouse, M.D.
President
Lynchburg Academy of Medicine
J. T. T. Hundley, M.D.

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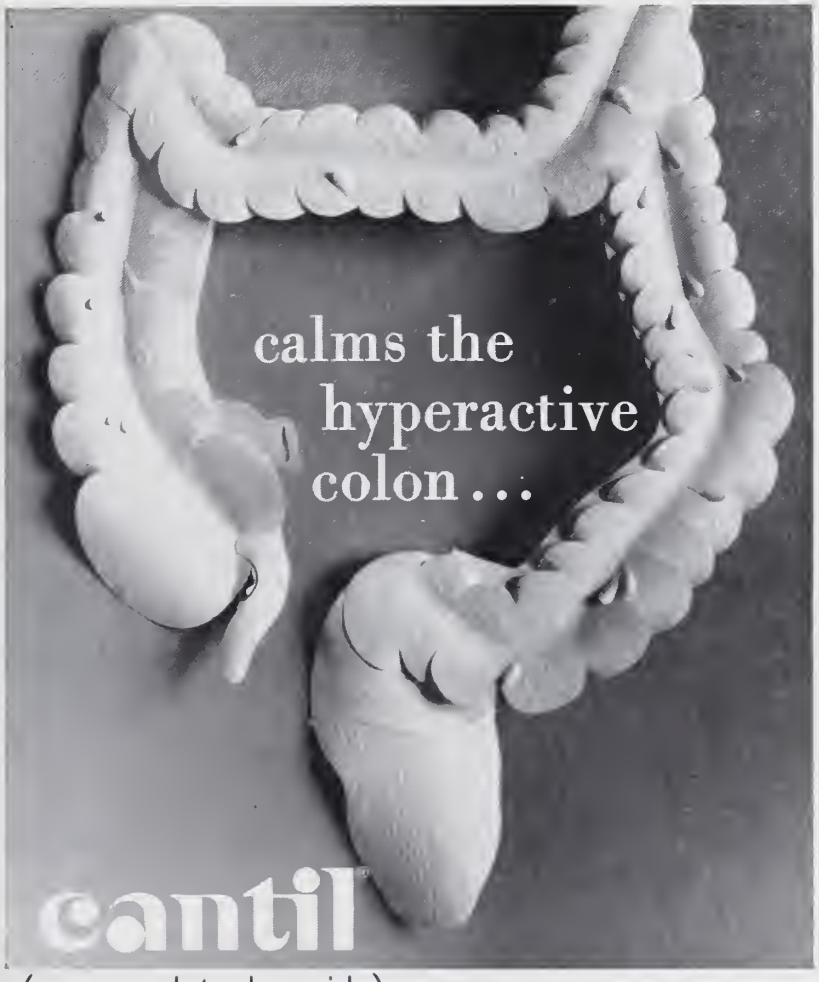
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- control diarrhea/constipation
- relieve spasm, cramping, bloating
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with little effect on stomach, bladder or other viscera.

"In 40 of 44 cases of irritable or spastic colon, Cantil [mepenzolate bromide] or Cantil with Phenobarbital reduced or abolished abdominal pain, diarrhea and distention and promoted restoration of normal bowel function . . . Cantil [mepenzolate bromide] proved to be singularly free of anticholinergic side-effects. Blurring of vision or dryness of the mouth were occasionally seen and were usually managed with a reduction in dosage. Urinary retention, noted in two cases was eliminated in one by reducing dosage."[1]

IN BRIEF:

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Dryness of the mouth or blurring of vision may occur but it is usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy—withhold in glaucoma. Cantil with Phenobarbital is contraindicated in patients sensitive to phenobarbital.

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1-Riese, J.A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

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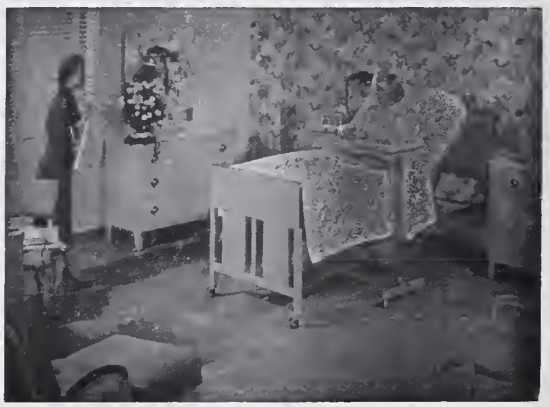
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(1) Lehmann, H. E.: Psychosomatics *6*:266, 1965. (2) Splitter, S. R.: Psychosomatics *6*:322, 1965. (3) Smith e Incas, J.: Internat. J. Neuropsychiat. *1*:220, 1965. (4) Coffee, J. M. A. Georgia *53*:107, 1964. (5) Bowes, H. A.: Psychosomatics *5*:44, 1964. (6) Pennington, V. M.: Combined Psychopharmacological Treatment of Depression, Sc Exhibit, 18th A.M.A. Clinical Convention, Miami Beach, Nov. 29-Dec. 2, 1964. (7) Dorfman, W.: Psychosomatics *5*:7, 1964. (8) Mattey, W. E.: Current Therap. Res. *5*:31

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More certain broad-spectrum relief: ETRAFON is a broad-spectrum psychotherapeutic agent, capable of symptomatic relief not achieved with either drug alone in mixed emotional disorders. Pennington[6] states: "Since neurotic and psychotic anxiety and depression are simultaneously present in varying degrees, these two types of phrenotropic drugs in combination are more effective than either alone." Dorfman[7] and Coffee[4] report that patients unimproved on amitriptyline alone have responded to the combined therapy.

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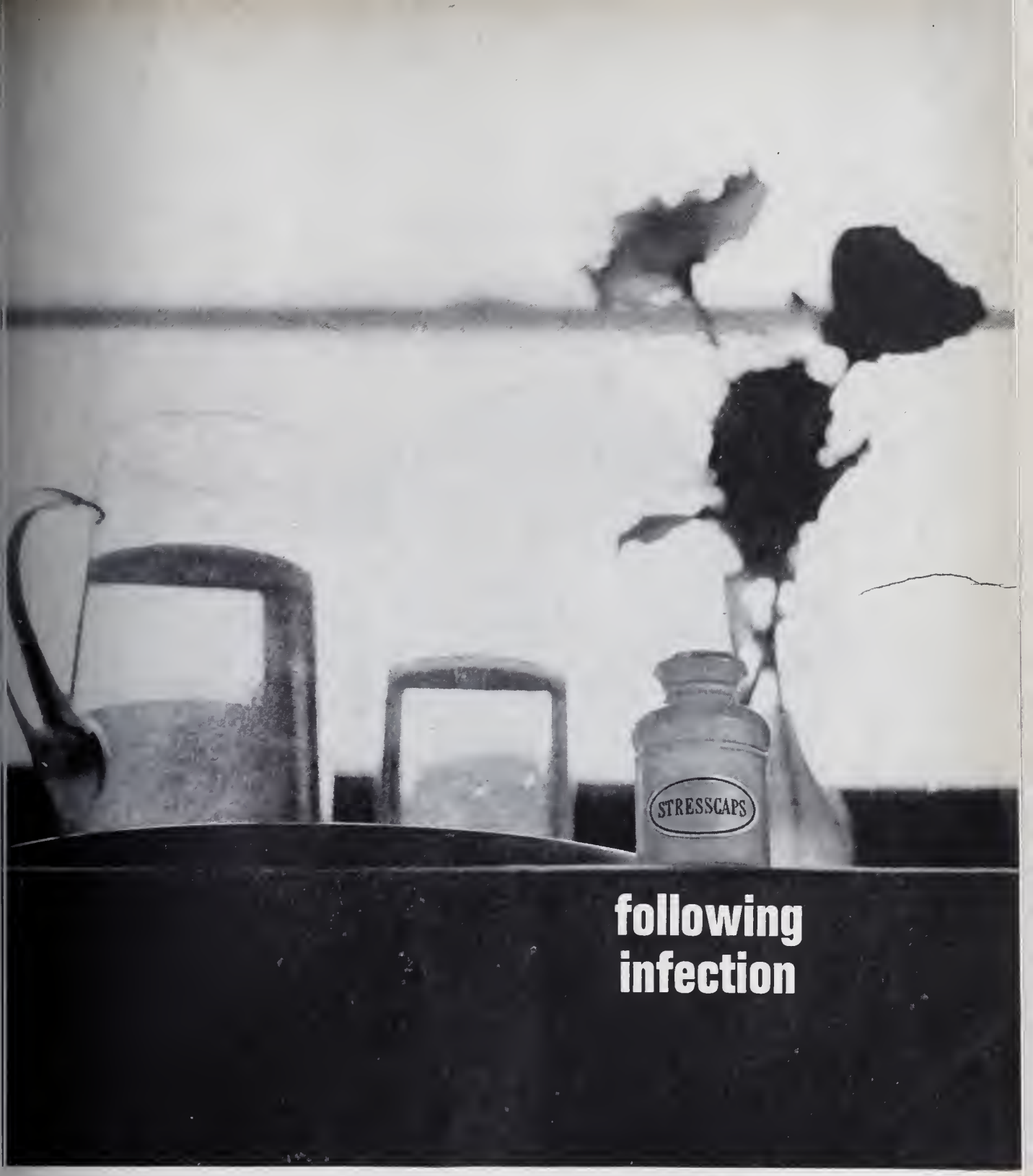
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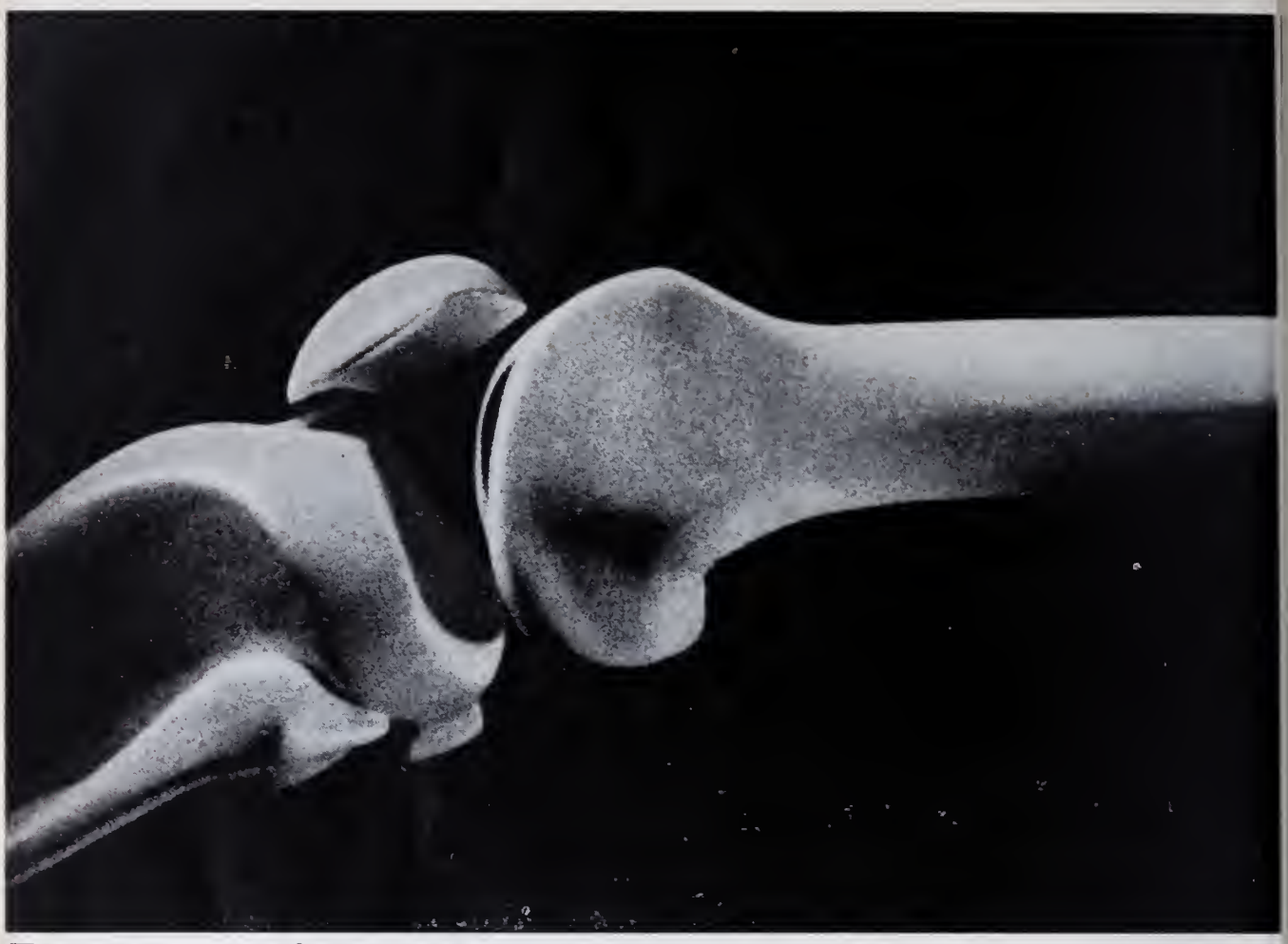
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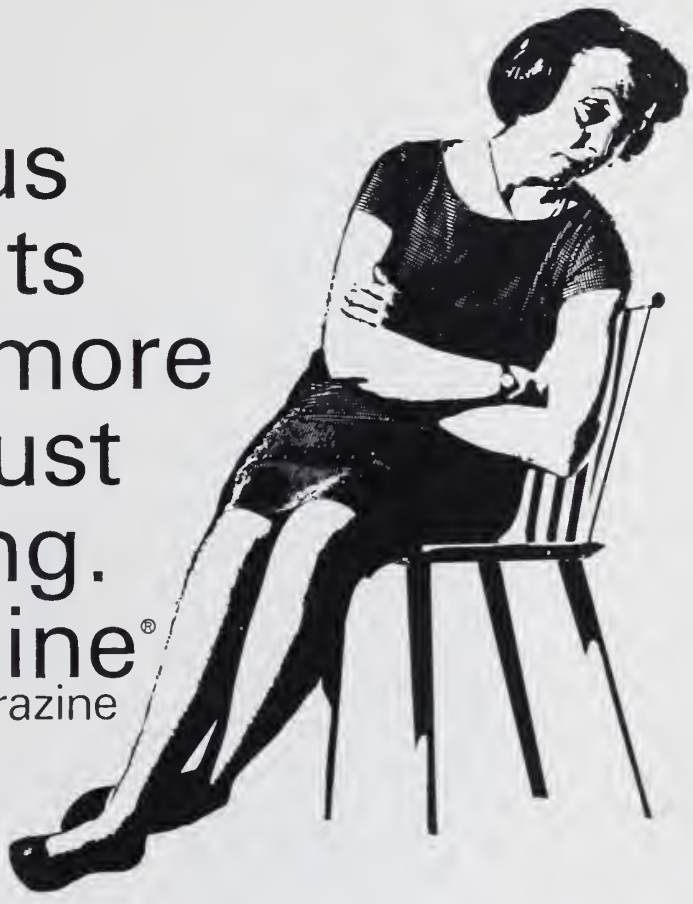
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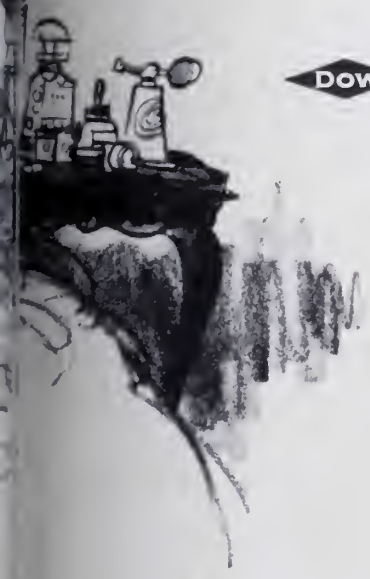


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In prescribing: Dosage—Adults: Mild to moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. Geriatric patients: 5 mg b.i.d. to q.i.d.

Side Effects: Side effects, usually dose-related, include drowsiness, ataxia, minor skin rashes, edema, menstrual irregularities, nausea and constipation. When treatment is protracted, blood counts and liver function tests are advisable. Paradoxical reactions may occasionally occur in psychiatric patients. Individual maintenance dosages should be determined.

Precautions: Advise patients against possibly hazardous procedures until maintenance dosage is established. Though compatible with most drugs, use care in combining with other psychotropics, particularly MAO inhibitors or phenothiazines; warn patients of possible combined effects with alcohol. Observe usual precautions in impaired renal or hepatic function, in long-term treatment and in presence of depression or suicidal tendencies. Exercise caution in administering drug to addiction-prone patients or those who might increase dosage; withdrawal symptoms, similar to those seen with barbiturates or meprobamate, can occur upon abrupt cessation after prolonged overdosage. Caution should be exercised in prescribing any therapeutic agent for pregnant patients.

Supplied: Capsules, 5 mg, 10 mg and 25 mg, bottles of 50.

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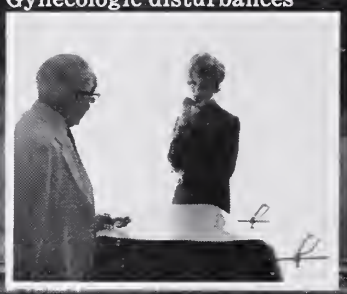
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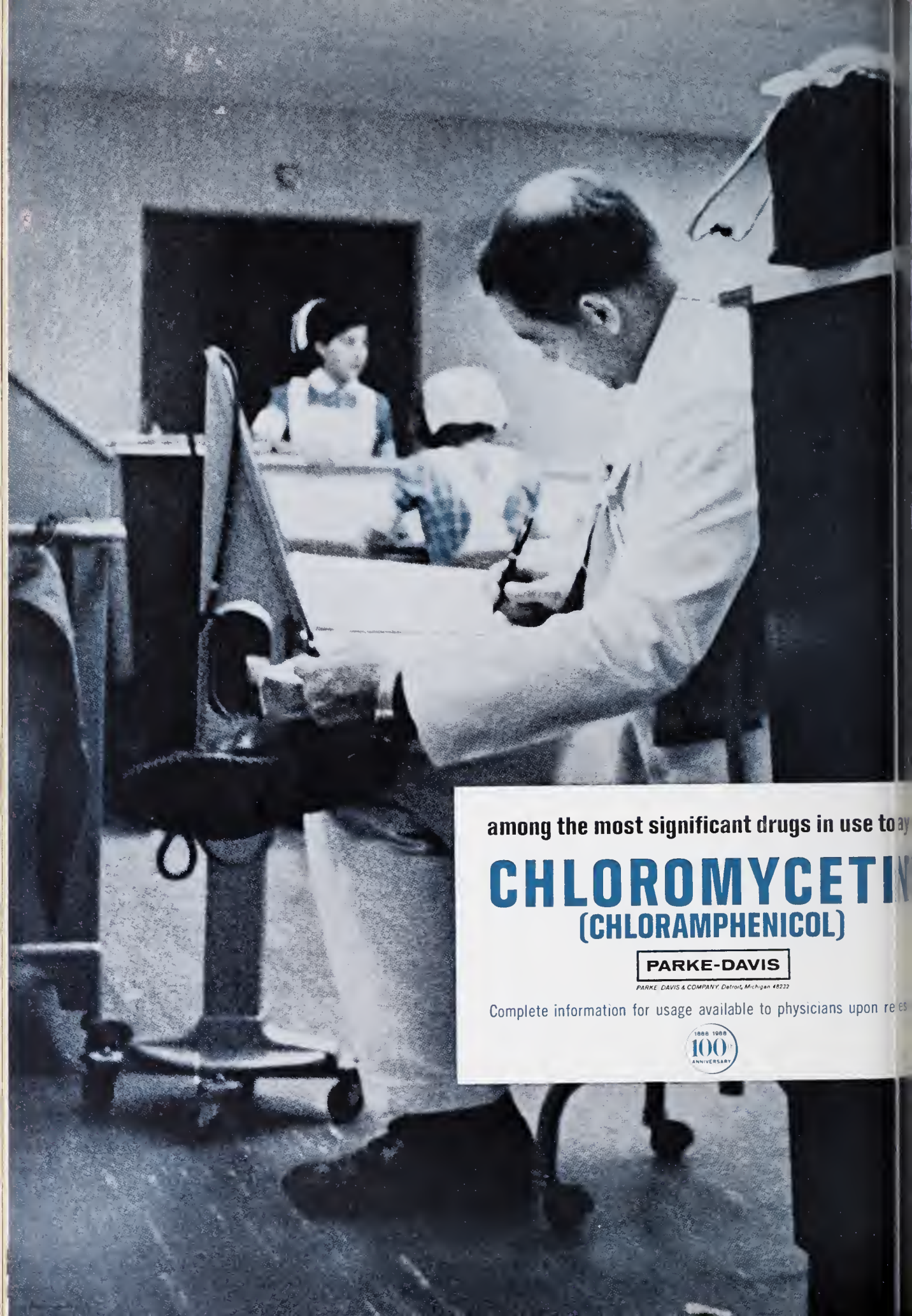


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PRIL, 1966

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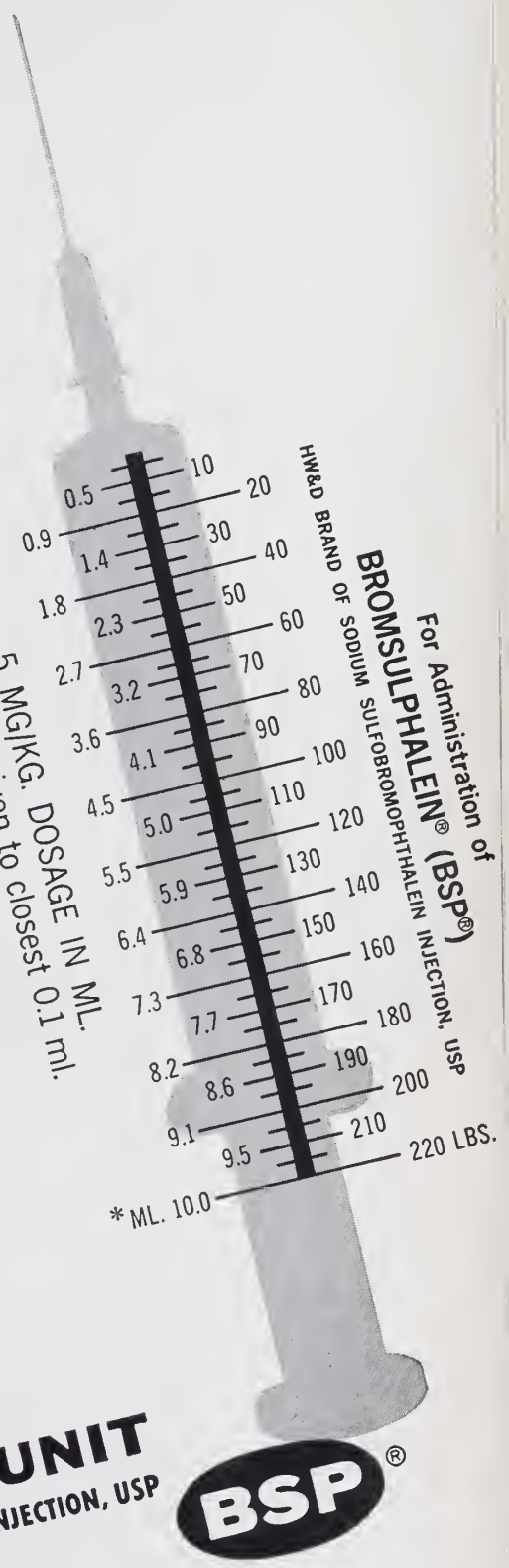
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1. Collective studies, Department of Medical Research, Winthrop Laboratories.

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Before prescribing, see SK&F product Prescribing Information.

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for the relief of low back sprains and strains

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romptly relieves diarrheal distress

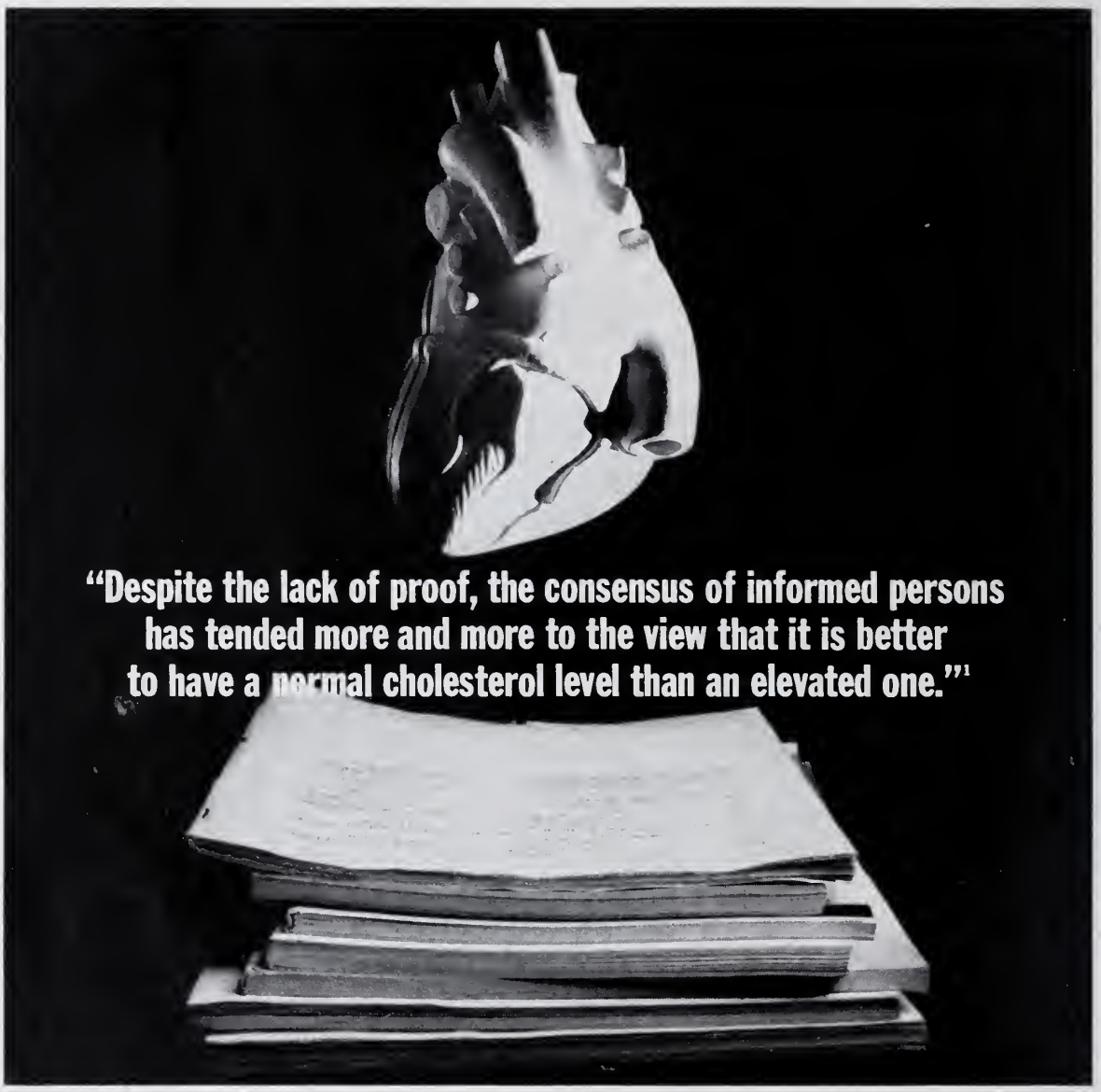
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00 mg. (equivalent to 210 mg. of neomycin base),
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EXCEPT THE SEDATIVE-ANTISPASMODIC
BENEFITS OF

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belladonna alkaloids in optimally balanced ratio

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Years of clinical use have established phenobarbital as one of the most efficient and highly regarded sedatives. In fact, for general sedation it is the drug of choice.[3] In Donnatal, phenobarbital potentiates the spasmolytic effects of the belladonna alkaloids, lessening emotional tensions and checking the neurogenic impulses that trigger GI disorders.

more than 24 indications in PDR

Donnatal has withstood the test of time to become the classic sedative-antispasmodic because of its unsurpassed effectiveness, safety, economy, uniformity of composition, and dosage convenience. Its widespread acceptance and usage by the profession can also be attributed to its versatility in treating disorders characterized by smooth muscle spasm. There are more than two dozen distinct and separate indications for Donnatal listed in the current PDR.

IN EACH TABLET, CAPSULE, OR (5 cc.) OF ELIXIR

hyoscyamine sulfate	0.1037 mg.
atropine sulfate	0.0194 mg.
hyoscine hydrobromide	0.0065 mg.
phenobarbital	(1/4 gr.) 16.2 mg.

(warning: may be habit forming)

IN EACH EXTENTAB

hyoscyamine sulfate	0.3111 mg.
atropine sulfate	0.0582 mg.
hyoscine hydrobromide	0.0195 mg.
phenobarbital	(3/4 gr.) 48.6 mg.

(warning: may be habit forming)

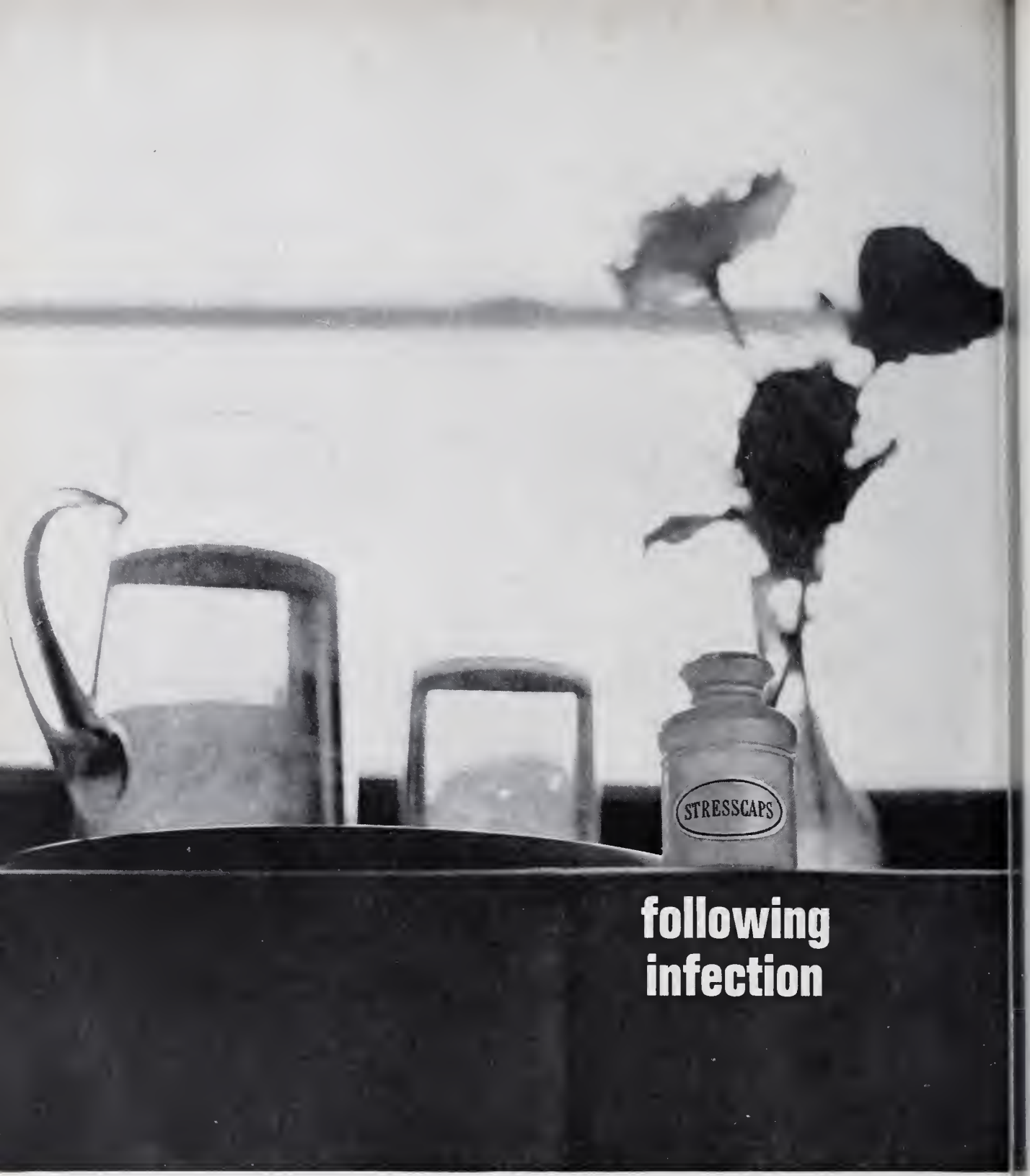
BRIEF SUMMARY: Blurring of vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur on higher dosage levels, rarely on usual dosage. Administer with caution to patients with incipient glaucoma, or urinary bladder neck obstruction. Contraindicated in acute glaucoma, advanced renal or hepatic disease, or a hypersensitivity to any of the ingredients.

REFERENCES: 1. Vollmer, H.: Arch. Neurol. and Psychiat., 43:1057, 1940. 2. Morrissey, J.H.: J. Urology, 57:635, 1947. 3. Krantz, J.C., Jr., and Carr, C.J.: Pharmacological Principles of Medical Practice, 2nd ed., Baltimore (1954), 552.

*This one at Westover, elegant Colonial Virginia plantation, located on the James River near Richmond. Built in the early 1730's by William Byrd II, founder of Richmond, it is now the home of Mrs. Bruce Crane Fisher.

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STRESSCAPS B and C vitamins in therapeutic amounts...help the body mobilize defenses during convalescence...aid response to primary therapy. The patient with a severe infection, and many others undergoing physiologic stress, may benefit from STRESSCAPS.

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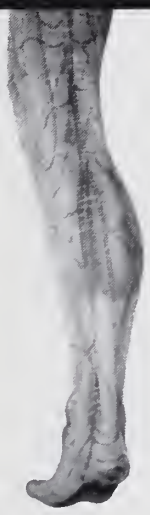
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Each capsule contains:	
Vitamin B_1 (as Thiamine Mononitrate)	10 mg.
Vitamin B_2 (Riboflavin)	10 mg.
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Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 (one month's supply) and 100 (three months' supply).

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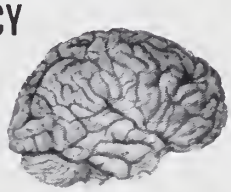
where decreased blood flow results in hearing loss (sudden onset), tinnitus, or vertigo.

IN PERIPHERAL VASCULAR DISEASES

where ischemia causes pain, spasm, ache, intermittent claudication; also coldness, numbness or ulceration of extremities.

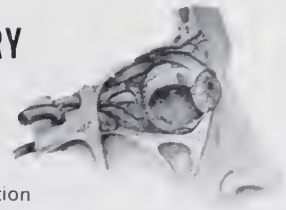
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leading to such symptoms as mental confusion, diplopia, vertigo and lightheadedness.



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Dosage: ½ to 1 tablet three or four times a day is the usual effective dosage; increased if necessary, to 2 tablets three or four times a day. **Side Effect:** Occasional palpitation. **Precautions:** Use with caution in the presence of a recent myocardial lesion, paroxysmal tachycardia, severe angina pectoris and thyrotoxicosis. **Contraindication:** Acute myocardial infarction. Consult product brochure.

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Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline†, 100 mg.; inositol†, 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
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Life *can* begin at forty—except when functional fatigue causes her to feel tired all the time; to start losing interest in friends and surroundings; to look and act older than her years. Alertonic—*a prescription tonic*—can help your patient become her normal self again. Alertonic helps relieve mild depression, revive interest and restore purposeful activity promptly...with a formula that is efficient *and* economical. Alertonic contains a mild central stimulant (pipradrol hydrochloride), 15% alcohol, essential vitamins and minerals. No hormones or MAO-inhibiting drugs are included. No iron. No iodine. One pleasant-tasting tablespoonful before each meal comprises the usual daily dose.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS-stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive-compulsive states.

Side Effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

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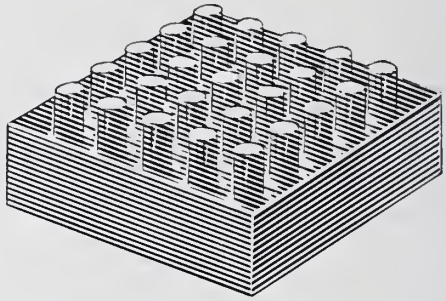


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POLIOVIRUS VACCINE, LIVE, ORAL
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Fast, simple administration—and economy for the patient—make the new 0.5 cc single-dose vial of ORIMUNE Trivalent ideal for private practice. (Packaged 5 to a box with 5 sterilized disposable droppers for your convenience).
(Also available in 2 cc and 2 drop dosage forms).
Only 2 doses required for complete, initial immunization for patients more than a year old.

Effectiveness—may be expected to confer active immunity against all three types of poliovirus infection in at least ninety percent of susceptibles only if given at full dosage, as directed. No characteristic side effects have been reported. There are, however, certain contraindications. These are, broadly: acute illness, conditions which may adversely affect immune response, and advanced debilitated states. In these, vaccination should be postponed until after recovery.
In infants vaccination should not be commenced before the sixth week of life. Do not give to patients with viral disease, or if there is persistent diarrhea or vomiting. ORIMUNE and live virus measles vaccine should be given separately.
Dosage—initial immunization: two doses each given orally at least 8 weeks apart. (Give a third dose to infants at 10-12 months). Booster immunization: one dose, given orally. See package literature for full directions.



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Comparable in accuracy and reliability to older standard intradermal tests*, but faster and easier to use. Since TINE TEST is relatively painless it should receive greater patient acceptance. Results are read at 48-72 hours. The self-contained, completely disposable unit requires no refrigeration and is stable for two years.
Side effects are possible but rare: vesiculation, ulceration or necrosis at test site. Contraindications, none; but use with caution in active tuberculosis. Available in boxes of 5 (new individually-capped unit); cartons of 25.

*Rosenthal, S. R., Nikurs, L., Yordy, E., and Williams, W.: Scientific Exhibit Presented at the Annual Meeting of the National Tuberculosis Association, Chicago, Illinois, May 30-June 2, 1965.

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Taking an ECG?

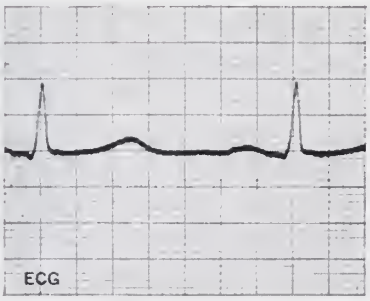
***Complete** the clinical picture*
*with **a heart sound recording***

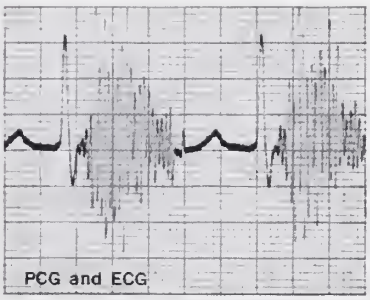
... made on your 500 VISO when you take the ECG

Increase your knowledge of cardiac condition with the valuable *additional* information provided by heart *sound* recordings. With this new Sanborn Heart Sound Amplifier clipped to the front of your 500 VISO* you can immediately obtain clear, sharply defined, graphic records — which identify the *location, intensity* and *duration* of the sounds and murmurs within the cardiac cycle. Even in the presence of complex arrythmias, marked tachycardias and other conditions which may complicate or prevent accurate auscultation by stethoscope alone, a definitive record of diagnostic quality can be obtained with this new instrument. Frequency cutoffs of 50, 100, 250 and 500 cps can be switch-selected to separate murmurs which might otherwise be masked by other heart sounds. As an electronic stethoscope, all sounds from 50 to 2000 cps can be heard at normal or amplified levels.

This precise Sanborn amplifier has convenient controls for recording the ECG, PCG, or ECG superimposed on the PCG . . . Cutoff Frequency . . . Audiophone Volume . . . and Sensitivity. Complete with contact microphone, cable and Audiophone (for use as an electronic stethoscope), Model 1506A is $450 f.o.b. Waltham, Mass. (continental U.S.). For more information, use the convenient coupon below. Sanborn Division, Hewlett-Packard Company, Waltham, Mass. 02154. In Europe, Hewlett-Packard S.A., 54 Route des Acacias, Geneva.

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Look, Doctor, what he needs is a shot of penicillin.

Maybe. Maybe not. In any case, he needs something to control his cough.

If it's the useless, exhausting type of cough that often accompanies respiratory infection or allergy, you can provide prompt relief with Novahistine DH. Its decongestant-antitussive action controls frequency and intensity of cough spasms without abolishing cough reflex. And the fresh grape flavor of Novahistine DH appeals to children and adults alike.

When your diagnosis is bronchitis, complicated by thick tenacious exudates, Novahistine Expectorant is particularly useful. It not only provides decongestive action and controls the cough, but also encourages expectoration, thus easing bronchial obstruction.

Use with caution in patients with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Ambulatory patients should be advised that drowsiness may result. Continuous dosage over an extended period is contraindicated since codeine phosphate may cause addiction.

Each 5 ml. teaspoonful of Novahistine DH contains codeine phosphate, 10 mg. (Warning: may be habit forming); phenylephrine hydrochloride, 10 mg.; chlorpheniramine maleate, 2 mg.; chloroform (approx.), 13.5 mg.; l-menthol, 1 mg. (Alcohol 5%). Each 5 ml. of Novahistine Expectorant contains the above ingredients and, in addition, glyceryl guaiacolate, 100 mg.

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Miltown® (meprobamate)

Indications: 'Miltown' (meprobamate) is effective in relief of anxiety and tension states. Also as adjunctive therapy when anxiety may be a causative or otherwise disturbing factor. Although not a hypnotic, 'Miltown' fosters normal sleep through both its anti-anxiety and muscle-relaxant properties.

Contraindications: Previous allergic or idiosyncratic reactions to meprobamate or meprobamate-containing drugs.

Precautions: Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of pre-existing symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Usual adult dosage: One or two 400 mg. tablets three times daily. Doses above 2400 mg. daily are not recommended.

Supplied: In two strengths: 400 mg. scored tablets and 200 mg. coated tablets.

Before prescribing, consult package circular.

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one mid-morning **one mid-evening**

New 300 mg tablet It's made for b.i.d.

For Adults–2 tablets provide a full 24 hours of therapy...with all the extra benefits of DECLOMYCIN...lower mg intake per day...proven potency... 1-2 days' "extra" activity to protect against relapse or secondary infection.

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE
300 mg FILM COATED TABLETS

Effective in a wide range of everyday infections —respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Warning — In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of discomfort.

Precautions and Side Effects — Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

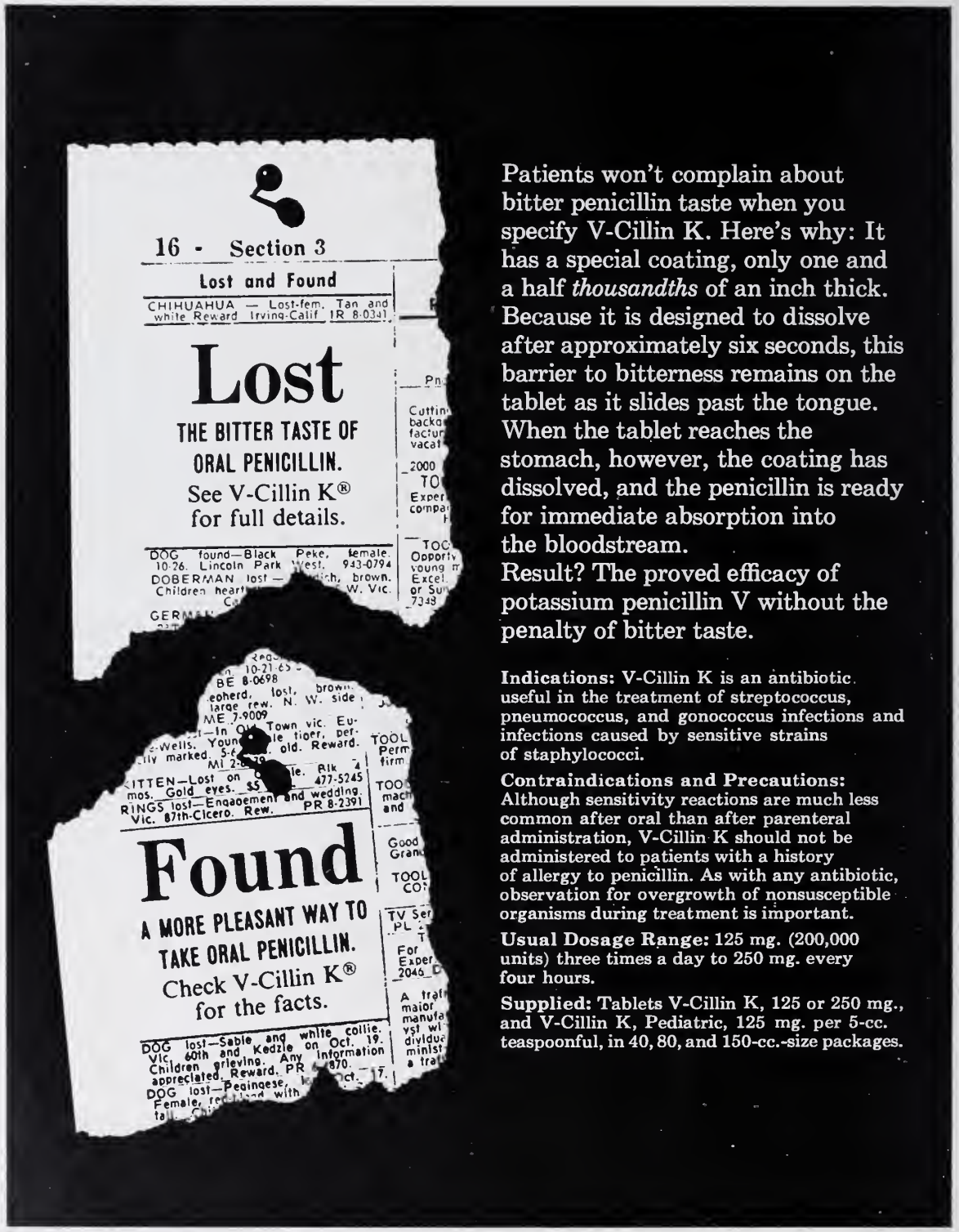
Capsules: 150 mg of demethylchlortetracycline HCl.

Tablets: film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

Lederle

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Patients won't complain about bitter penicillin taste when you specify V-Cillin K. Here's why: It has a special coating, only one and a half *thousandths* of an inch thick. Because it is designed to dissolve after approximately six seconds, this barrier to bitterness remains on the tablet as it slides past the tongue. When the tablet reaches the stomach, however, the coating has dissolved, and the penicillin is ready for immediate absorption into the bloodstream.
Result? The proved efficacy of potassium penicillin V without the penalty of bitter taste.

Indications: V-Cillin K is an antibiotic useful in the treatment of streptococcus, pneumococcus, and gonococcus infections and infections caused by sensitive strains of staphylococci.

Contraindications and Precautions: Although sensitivity reactions are much less common after oral than after parenteral administration, V-Cillin K should not be administered to patients with a history of allergy to penicillin. As with any antibiotic, observation for overgrowth of nonsusceptible organisms during treatment is important.

Usual Dosage Range: 125 mg. (200,000 units) three times a day to 250 mg. every four hours.

Supplied: Tablets V-Cillin K, 125 or 250 mg., and V-Cillin K, Pediatric, 125 mg. per 5-cc. teaspoonful, in 40, 80, and 150-cc.-size packages.

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V-Cillin K®
Potassium Phenoxymethyl Penicillin

Additional information available to physicians upon request.
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The Virginia
MEDICAL MONTHLY

April, 1966
Vol. 93, No. 4
Whole No. 1367

Guest Editorial . . .

The Wellcome Historical Medical Library

THE WELLCOME HISTORICAL MEDICAL LIBRARY on Euston Road, London, was established by Sir Henry Wellcome and was opened to the public in 1949. Sir Henry Wellcome, an American, founded the Burroughs-Wellcome Company, manufacturer of drugs. Mr. Wellcome had a deep interest in medical history and collected books, manuscripts, prints, letters and objects relating to medicine. The Library is devoted entirely to the history of medicine and the preservation of his collections. It contains around 250,000 printed books, pamphlets and journals. In addition, there are over 100,000 autographed letters of medical importance. It is, therefore, the largest specialized library for the history of medicine.

The collections are housed in the Wellcome Building and are crowded for space due to the use of this building for general office purposes. However, there are plans to move the offices to another location and give the needed space to the Library. The reading room of the Library is a large comfortable room with a balcony running around the entire room. On the balcony are alcoves with desks for individual workers. There are sections of books on the balcony on general history, theology, general science, physics, chemistry, biology, the texts of the history of medicine, medicine in various countries, and the various subdivisions of medicine. Also the current issues and bound copies of the numerous journals on the history of medicine are located on the balcony with easy access to the reader. Below the balcony are illuminated names of many of the outstanding names in medicine. There are two separate rooms, one for books on American medicine and the other for Oriental and Arabic medicine. Both of these rooms have display cabinets of their outstanding books.

On the lower floor of the reading room, there is the librarian's desk, card catalogs and the standard reference texts, encylopedias, dictionaries,

biographies, books on books, and catalogs of books and manuscripts. Standard catalogs such as the British Museum Catalog and the Index Medicus are available here. The numerous reference texts to the Incunabula are available. This room is used for the storage of large folios. Display cabinets contain some of the outstanding items both in the entrance hall and in the main room.

The card catalogs are very complete. In the usual English library it is the custom to have only an author catalog. In this Library, however, there is in addition to the author catalog, a subject, date and place catalog. If, for example, a reader who would like the medical books published in Paris between 1610 and 1620, this information could be obtained from the catalogs.

The majority of the books are stored in stacks closed to the public. Some of the books are kept in another location on account of the crowded condition but may be obtained when wanted. The collection is now being cataloged in bound volumes. The Catalog of Incunabula, Western Manuscripts and Books printed before 1641, have been published. Active work is in progress in order to publish the remainder of the collection and to issue bound catalogs of the Arabic and Oriental books. In addition, some of the collection of medical objects of Mr. Wellcome is on display in the Museum. On the ground floor are five complete apothecary shops and an excellent display of diseases of the tropics. On the upper floors are displays of medical and surgical instruments, apothecary jars from many countries and other items of medical-historical interest. There is an exhibit which is changed frequently. Last summer, there was an exhibit of the medical aspects of the Battle of Waterloo, with surgical instruments used in this battle, maps and many other items. There is also a good collection of instruments and books relating to vaccination.

Chalmers L. Gemmill, M.D.

Department of Pharmacology
University of Virginia School of Medicine
Charlottesville, Virginia

Mammography

A Useful Adjunct in the Management of Breast Disease

CHARLES M. EARLEY, Jr., Major, USAF, MC
Chief of Surgical Services
836th Tactical Hospital
MacDill Air Force Base, Florida

PATRICK J. MOORE, Captain, USAF, MC
Chief of Surgical Services
831st Tactical Hospital
George Air Force Base, California

HENRY J. SCHMITT, Jr., Captain, USAF, MC
General Surgery Service
Wilford Hall USAF Hospital
Lackland Air Force Base, Texas

Three USAF Hospitals have collaborated on a clinical research project to determine the applicability of mammography to typical practices of surgery and radiology. The present study includes 612 mammograms, performed under a standard set of indications. Eight cases of particular interest are cited, and the limitations of mammography are stressed.

THE COMMITTEE on Clinical Research in General Surgery of the Air Force Society of Clinical Surgeons adopted as a project an evaluation of mammography as to its application to surgery in general and to USAF Hospitals in particular. Three hospitals participated in this study: the 836th Tactical Hospital, MacDill Air Force Base, Florida; the 831st Tactical Hospital, George Air Force Base, California; and the Wilford Hall USAF Hospital, San Antonio, Texas. Fully aware that 24 medical centers were engaged simultaneously in a quite ambitious study on mammography in collaboration with Dr. Robert L. Egan of the University of Texas M. D. Anderson Hospital and Tumor Institute and the United States Public Health Service,[3] we proceeded with this work with several purposes in mind: namely, to compare our results with those of this nationwide study; to counsel surgeons and radiologists in USAF hospitals as to the technique, practicability, and limitations of mammography; and to contribute to whatever degree possible to the knowledge being accumulated on mammography.

The first attempt to use x-rays in the diagnosis of mammary disease was by Salomon,[15] who in 1913 took x-rays of radical mastectomy specimens and compared roentgenologic, clinical, and histological findings. Nearly half a century passed between Salomon's initial efforts and the reporting of Egan's[5] evaluation of 1,000 mammograms in 1960! Eventually, we may appreciate

The contents of this article reflect the personal views of the authors and are not to be construed as a statement of official Air Force policy.

Present address of Dr. Earley is 958 Laskin Road, Virginia Beach, Virginia.

the importance of this technique if the stubborn survival rates for carcinoma of the breast at last begin to improve.

Purposes of Mammography

"The primary aim of mammography at present is to demonstrate the absence or presence of a breast lesion and to determine the benignity or malignancy of such a lesion. There is indication of mammography's value in treatment planning in that some of the 'grave signs' such as diffuse skin thickening,

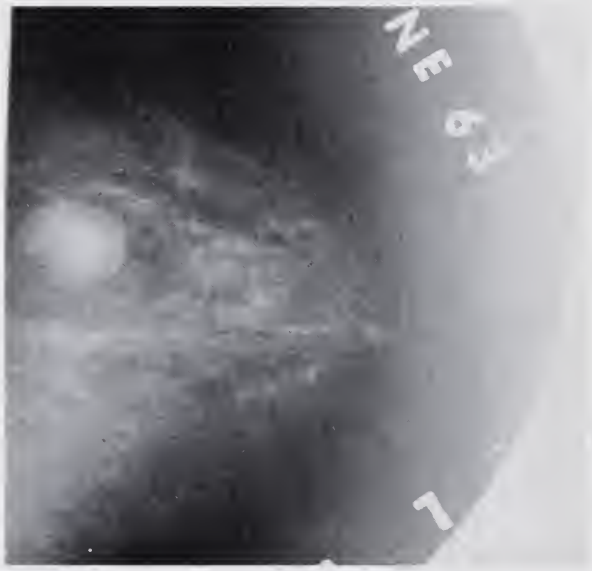


Fig. 1. Craniocaudad view of a fibroadenoma; note well delineated margins and absence of reaction in adjacent parenchyma.

multiple primary carcinomas, and matted axillary lymph nodes may be more easily and readily recognized." [7]

In addition to specific reasons for performing mammography are certain "fringe benefits" to be derived from the procedure. We have found ourselves able to schedule the surgeon's and the operating room's time more intelligently since preoperatively the diagnosis is made more definite. By the same token, the anesthesiologist may proceed with tracheal intubation from the start on cases reported by mammography to be malignant rather than deferring this until frozen section has been accomplished by biopsy under light general anesthesia. Having this additional advance knowledge as to the nature of the tumor, the surgeon is more able to prepare the patient psychologically for radical mastectomy. It may even be an aid in planning well the biopsy incision, and a positive mammogram adds to the total clinical picture presented to the pathologist when he receives the biopsy specimen.

Classical Findings at Mammography

The classical findings at mammography have been described thoroughly in the literature by Egan.[7] Benign masses (Figures 1-3)



Fig. 2. Craniocaudad view of a 49 year old patient with a large fluid-filled mass surrounded by a distinct "halo" of radiolucent tissue; a benign cyst was found at operation.

are found to be homogenously dense, rounded or smoothly lobulated, and surrounded by a thin radiolucent layer of fat, pushing normal tissue aside and producing only local changes; the breast parenchyma is not invaded. Such lesions are few, isolated or widely scattered, and coarse. On the other hand, malignant masses (Figures 4-6) are denser in the center, have irregular spiculated borders, invade nearby tissue, and usually are associated with some secondary changes in the breast such as localized or diffuse thickening and retraction of the skin, nipple retraction, venous engorgement,

proliferative fibrous reaction in the breast, or involvement of the retromammary space or the axillary lymph nodes. In addition, about a third of the carcinomas contain stippled calcifications. Egan also points out



Fig. 3. Craniocaudad view of a 69 year old patient found to have extensive mammary duct ectasia; note calciferous deposits in cylindrical patterns along the ectatic duct walls.

that by x-ray a malignant nodule may appear to be 1.5 to 5 times larger than it does clinically.

Because of the marked increase in breast density seen in fibrocystic disease and in sclerosing adenosis, Martin et al[13] strongly urge biopsy of any dominant lesion, in all cases of adenosis, and in all dense breasts.

The mammographic picture seen in inflammatory carcinoma has been the subject of a thorough study by Berger,[1] who describes three hallmarks of this condition: (1) marked subcutaneous thickening; (2) visible prominence of lymphatic channels beneath the skin; and, (3) an overall increased tissue density, homogeneous or consisting of fingerlike projections perpendicular to the skin's surface. He points out that differentiation must be made between inflammatory carcinoma and true inflammation, plasma cell mastitis and mammary duct ectasia (in these, the mass has a uniform ground-glass appearance and a fuzzy marginal outline unlike the spiculated margins of scirrhous carcinoma), chronic granulomatous inflammation such as tubercu-



Fig. 4. Craniocaudad view showing carcinoma in the axillary tail of the breast of a 62 year old female; the admitting surgeon thought this lesion to be benign on physical examination.

losis, and dermatitis due to radiation or to chemical irritants.

The diagnostic importance of the calcareous deposits themselves has been stressed by Gershon-Cohen, Yic, and Berger,[10] who in 300 cases of carcinoma found these deposits in 91. They have found that dispersed calcium deposits characterize ductal carcinoma whereas calcium deposits inside a nodule indicate scirrhous carcinoma. Any condition accompanied by fatty degeneration, such as traumatic fat necrosis and secretory disease (mammary duct ectasia) will show deposits. In duct ectasia (Figure 3) the deposits are tubular in the walls of ducts and appear as parallel streaks of calcification, sometimes outlining plainly the ducts and saccules. Inflammatory conditions

and fibroadenomata develop coarse calcium particles which are flakey plaquelike, while sclerosing adenosis shows small globular or spherical deposits. Deposits associated with intraductal epithelial hyperplasia are felt



Fig. 5. Mesiolateral view of scirrhous carcinoma in a 58 year old female who had previously undergone a contra lateral radical mastectomy; physical examination diagnosis by admitting surgeon was benign.

to be the most difficult to distinguish from carcinoma, often resembling those of ductal carcinoma so closely that preoperative differentiation may be impossible. Bright illumination and a magnifying glass must be used to appreciate fully the calcareous patterns.

Paget's disease of the nipple numbered four cases of Egan's[4] series, and the underlying carcinoma was not detected clinically in three but was diagnosed at mammography in all. Paget's disease was not found in our series.

Those less intrepid roentgenologists and technicians who hesitate to attempt mammography on the small-busted female should take heart with the work of Forman,[9] who has assimilated a series of 125 male mammograms, demonstrating eight carcinomas. His observations include apt descriptions of gynecomastia and other conditions.

Technique

Because the 836th Tactical Hospital's x-ray Department, like most of those not



Fig. 6. Mesiolateral view of a 45 year old patient with clinical diagnosis of inflammatory carcinoma due to presence of peau d'orange; no mass palpable. Biopsy of skin and subareolar tissue was negative for malignancy. Biopsy of the occult lesion (note arrow) near chest wall contain calciferous stippling yielded scirrhous carcinoma.

located in university or other large medical centers, is not equipped with a machine capable of handling the low kv range used in the Egan method, a different technique has been developed. It is felt that this method may well be practicable in the average hospital with a standard commercial x-ray apparatus. A 300 milleamp machine calibrated to deliver 30 to 100 kv is used. Kodak Type M Industrial Film is used, and this is developed at 68°F. for seven minutes.

In this technique a 3.0 mm. aluminum filter is added. A standard 30 inch distance has proved satisfactory with a 4 second exposure at 300 ma; 34 kv are used for smaller breasts and 38 kv for average size and larger breasts. This is a workable way of performing mammography that was devised for use in a typical, unsophisticated x-ray section of an average hospital. Most of the films reproduced for publication with this article were made by this technique.

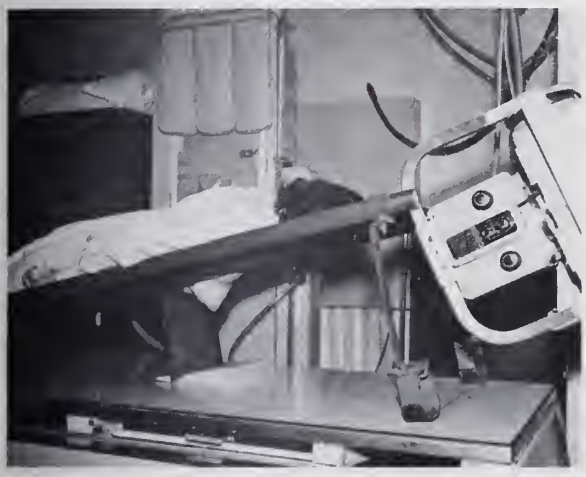


Fig. 7. Patient positioned for cephalocaudad projection.

Each study requires 30 to 45 minutes, with 15 minutes being allowed for cooling of the tube before and after the examination, since it overheats at this combination of kv, ma, and time. Doane and Williams[5] point out that beryllium x-ray tubes now under development will be standardized to be used at low kv and will have great heat tolerance and, presumably, will eliminate this problem.

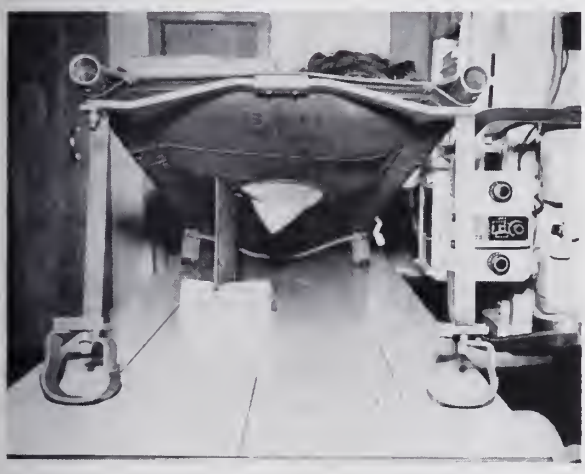


Fig. 8. Patient positioned for mesiolateral projection.

Positioning of the patient usually is done as shown by Egan,[7] but one of the authors (P.J.M.) has devised a method of positioning utilizing an ordinary canvas litter (Figures 7-8) into which has been cut a circular opening. The breast is protruded through this aperture, and cranio-caudad and lateral views are made easily. The advantage of this method is in having the weight of the breast itself pull it away from the chest wall, perhaps in so doing permitting more complete exposure of all mammary tissue. Johnston and Wise[11] recently reported successful use of a similar device.

Patient exposure to radiation is negligible, with the low energy beam and little scatter to the eyes and gonads; and mammography can be repeated safely several times each three months if necessary.[7] Ewton et al[8] measured the dose at the skin surface of the breast and at a central point within the breast which would receive radiation in each of the three usual exposures in mammography. They found that the doses received by the skin during mammography are larger than from other common radiographic procedures (varying from 6.0 milleroentgens for a chest film to 3.0 roentgens for a lateral pelvic film), but frequently smaller than at fluoroscopy (which varies from 3.0 to 10.0 roentgens per minute, depending upon filtration).

Results of Mammography

The combined efforts of the three hospitals engaging in this study on mammography yielded a total of 612 mammographic studies. Most patients underwent mammography but once; a few had multiple studies. The average age was 39 years. All but four patients were females. Histologic proof of diagnosis was obtained in 201 patients undergoing biopsy. Of the 411 patients not biopsied after mammography, all were judged clinically and roentgenologically to have benign disease except one

45 year old woman (WH#103) (whose indication for mammography had been a previous radical mastectomy) who was found to have widespread metastases by x-ray.

The indications for mammography were those listed by Martin et al:[13]

1. In the presence of a questionable breast lesion which is clinically equivocal (404 patients representing 66% of the total series).
2. As a means of evaluating all the breast tissue prior to surgery in the presence of a dominant lesion, suspected clinically of being cancer (31 patients; 5%).
3. As a method of evaluating the patient with multiple previous biopsies (1 patient).
4. To relieve anxiety in patients with cancerophobia (3 patients).
5. As a safe screening procedure in women without breast symptoms (107 patients; 17%).
6. As routine follow-up at six to twelve month intervals of the remaining breast of patients with previous radical mastectomies (60 patients; 10%).
7. In patients with metastatic disease in which the primary lesion is obscure (6 patients).

When comparing it with the recently reported nationwide reproducibility study,[3] the findings in the 201 patients undergoing biopsy are of interest. The nationwide study included 1,580 patients from a total of 24 medical institutions, each contributing an average of 66 cases; our study took place in three USAF hospitals, an average contribution of 67 cases. Table I gives the specificity and the sensitivity for the procedure in each of the two studies. Although the limited extent of our series renders it insignificant statistically, nevertheless it is noteworthy that it was assimilated *without* a five day training program at the M. D. Anderson Hospital and Tumor Institute under the direction of Dr. Egan! Indeed, perhaps this USAF study is additional evidence that his work *is* reproducible.

In our study, clinical diagnostic accuracy surpassed that of mammography (96% to 92% for benign and 81% to 75% for malignant lesions); however, on three occasions the mammogram indicated carcinoma in a breast thought clinically to be benign. Two additional patients whose tumors were thought to be benign on the basis of a less experienced admitting surgeon (thought to be malignant by a more senior staff member) were found to have carcinoma at mammography. This would indicate its value to the more occasional operator or to one not so adept at physical diagnosis.

Witten,[16] remarking on a series of over 9,000 mammograms, feels that the examination is not as reliable as some reports have indicated, noting in his series an accuracy of 85% in the diagnosis of carcinoma and 88% in benign conditions. In this series, 11% of the carcinomas would not have come to surgery had it not been for the mammogram. He reported that 5,000 screening mammograms done at The Mayo Clinic had yielded a "very small" pickup rate and had caused him to conclude that mammography is not justified economically as a routine screening diagnostic procedure.

Table I

Correlation Between Histopathologic Diagnosis and Mammographic Diagnosis

	Nationwide	*USAF Study*
TRUE POSITIVE	79%	75%
(Cancer Diagnosed by x-ray)	375 of 475	27 of 36
FALSE NEGATIVE	21%	25%
(Cancer Missed by x-ray)	100 of 475	9 of 36
TRUE NEGATIVE	90%	92%
(Benign Diagnosed by x-ray)	995 of 1105	151 of 165
FALSE POSITIVE	10%	8%
(Benign Missed by x-ray)	111 of 1105	14 of 165
TRUE TOTALS	87%	89%
	1370 of 1580	178 of 201

Only 107 of our series of mammograms were done as a screening procedure. One occult carcinoma was found, but not in a

patient having screening films (see case No. 6 below).

In Egan's series[6,7] of 53 occult carcinomas in 2,000 studies, only once was a breast explored with a roentgen diagnosis of carcinoma when one was not found—and that one was carcinoma-in-situ! Lee[12] advised biopsy for occult lesions in 11 women of 592 having screening mammograms, but malignancy was found in only three of these.

Byrne et al[2] have stressed the value of post mastectomy mammography of the remaining breast. They followed 102 patients, finding six new primary carcinomas, only one of which was palpable. Axillary metastasis was found in only one of the six cases. Lee[12] found six second carcinomas (two occult) in 77 patients being followed with mammography postoperatively. In our series, 63 studies were done on a remaining breast, five demonstrating a new primary carcinoma, one of these lesions appearing to be benign on clinical examination.

Case Number 1. A 43 year old female (WHH #1) underwent a breast biopsy that was originally thought to show cystic disease. Review of the sections by AFIP resulted in a diagnosis of intraductal carcinoma. Mammograms and physical examination after these facts were known indicated no malignancy. The patient refused to undergo mastectomy. She returned seven months later, her breast bearing diffuse nodularity and a non-tender, apparently benign mass. A mammogram indicated questionable carcinoma. She agreed to mastectomy and carcinoma was found in the surgical specimen.

Case Number 2. A 39 year old female (WHH #6) had mammograms done in 1962 showing stippled calcificiation typical of intraductal carcinoma. A biopsy then showed fibrocystic disease and an intraductal papilloma. One year later a biopsy done (without mammography) at the same site because of a recurrent mass yielded infiltrating ductal carcinoma.

Case Number 3. A 39 year old female (WHH #16) underwent biopsy, which was diagnosed histologically as sclerosing adenosis: Mammograms had shown equivocal changes. AFIP felt carcinoma was present. Re-biopsy was done; this was thought to be benign, and AFIP concurred.

Case Number 4. A 39 year old female (WHH #22) had a biopsy because of bleeding from one nipple. Intraductal carcinoma-in-situ was found. The opposite breast was found to have calcifications suggestive of malignancy, but this was found to be a calcified fibroadenoma.

Case Number 5. A 37 year old female (WHH #137) underwent mammography, which showed stippled calcification suggestive of intraductal carcinoma. Fibrocystic disease was found at biopsy.

Case Number 6. A 45 year old female (WHH #138) had clinical findings and mammography concur on diagnosis of carcinoma of the right breast. An occult carcinoma of the left breast was found at mammography.

Case Number 7. A 45 year old female (GH #1), the first to have mammography at the 831st Tactical Hospital, was found to have an otherwise undectable intraductal papillary adenocarcinoma very deep in the remaining breast. She had had a radical mastectomy previously for an identical lesion of the opposite breast.

Case Number 8. A 45 year old female (MH #106 and Figure 6) presented herself with her left breast showing periareolar edema but no palpable mass. Mammograms showed skin thickening suggestive of inflammatory carcinoma and the apparent primary tumor deep within the substance of the breast. Biopsies of the skin and the subareolar breast parenchyma showed no malignancy, but biopsy of the deep lesion revealed scirrhous carcinoma.

Limitations

There are definite limitations to mammography, and Martin[14] has listed them as follows:

1. A subareolar mass at mammography may resemble benign fibrosis when in reality it is a malignancy. All lesions under the nipple should be considered malignant until biopsied.

2. Small lesions in the periphery and on the chest wall are hard to see.

3. Inflammatory lesions, abscesses, and necrotic fat can all give a false appearance of cancer.

4. Although enlarged axillary nodes frequently show on mammograms, metastatic disease cannot always be identified.

5. Intraductal lesions are difficult to evaluate histologically and roentgenologically.

He states, "Mammography is a useful adjunct in the diagnosis of breast carcinoma. However, it should never take the place of an adequate history and physical examination. Regardless of how the mammogram is interpreted, a persistent discrete nodule found clinically should be biopsied. . . A radical mastectomy should never be performed on the basis of the roentgenologist's report without histologic confirmation of cancer. . . . Biopsies have been performed, however, when the mammogram suggests a lesion, although no nodule can be felt."

Lee[12] emphasizes that 5 to 15% of breast malignancies cannot be recognized radiographically, but Doane and Williams[4] feel that mammography is attaining a position wherein it might be compared with routine chest roentgenograms for thoracic pathology and routine Papanicolaou smears for cervical cancer.

". . . it is most important to emphasize that mammography does not take the place of microscopic diagnosis, but that it still functions as an important aid, and we find it a worthwhile procedure in specific types of breast pathology. . . . And above all, mammography may aid in the avoidance of the usual procrastination that frequently occurs because the process is regarded clinically as a benign inflammatory one." [1]

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Haemophilus Aphrophilus Endocarditis

A Case Report

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A case of endocarditis due to an unusual infecting bacteria is reported.

IN RECENT YEARS, there have been several reports of patients suffering from subacute bacterial endocarditis due to a gram negative pleomorphic bacillus, Haemophilus aphrophilus.[1,2] Due to the infrequency of infections in humans caused by this microorganism and the difficulty in the identification of this bacterium, this case report is made.

Case History

This 74 year old white housewife was admitted to Stonewall Jackson Hospital, Lexington, on May 4, 1965. She had been known to have arteriosclerotic heart disease with aortic insufficiency, coronary insufficiency and bouts of decompensation for about twelve years. She had been treated with digitoxin, chlorothiazide, pentaerythritol tetranitrate, nitroglycerin, aminophyllin and phenobarbital and for some time got along reasonably well. In January 1965 she spent eleven days at the University of Virginia Hospital for reevaluation because of increased dyspnea and angina. She improved with rest in the hospital and readjustment of her digitoxin and diuretics and the addition of erythrityl tetranitrate 5 mgs. at bedtime.

Two weeks prior to admission to the Stonewall Jackson Hospital she was seen at home because of nausea, anorexia and a general feeling of debility. At this time, she had no fever, a rather slow bigeminal pulse and on questioning it was determined that she was taking twice the prescribed dose of

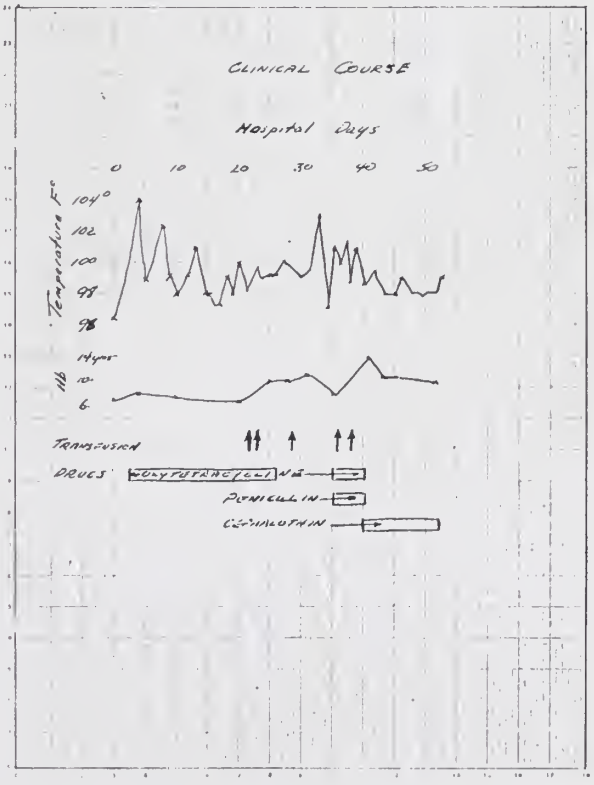


Fig. 1

digitoxin. This was readjusted and for a a few days she felt better. However, in a short time she again became nauseated, anorexic, very weak, and suffered with increasing dyspnea and slight edema but had no

return of angina. She was admitted to the Hospital for reevaluation.

At the time of admission, she appeared chronically ill with a drawn facial expression, evidence of weight loss but was conscious, alert and cooperative and in no acute distress. Vital signs on admission: blood pressure 118/65; temperature 96.6; pulse 76; respiration 18. Eyes were not remarkable, the fundi showed arteriosclerotic changes but no hemorrhages or exudates. The heart was markedly enlarged to the left and there was a Grade III systolic murmur over the whole precardium loudest in the 4th interspace to the left of the sternal border. A systolic murmur was also heard in the aortic area. The abdomen showed no tenderness or masses; liver on admission was not enlarged, but subsequently it was. Pelvic examination was not remarkable. Extremities showed a trace of ankle edema. Reflexes were normal. The skin presented no petechiae and no eruption was noted. The lungs were clear. Laboratory studies on admission revealed: Urine analysis negative, CBC showed 12,500 white cells, the differential 2 eosinophiles, 86 polymorphonuclears, 11 lymphocytes, 1 monocyte. The red cells were hypochromic and showed marked anisocytoses. The hemoglobin was 7.6 gms.%; hematocrit 27%. CO_2 combining power was 25 mEq./L., chlorides 94.8 mEq./L., potassium 5.0 mEq./L., sodium 134 mEq./L., urea nitrogen 26.8 mg.%, VDRL non-reactive, stool negative for occult blood. On May 19th serum iron was 58 mcg.%, iron binding capacity 234 mcg.%, latent iron 176 mcg.%. Routine agglutinations for typhoid O, paratyphoid A, paratyphoid B, Proteus OX19, Brucella abortus, and Tularemia were negative. Typhoid H was positive 1:40. A blood culture taken on May 7th showed a gram negative pleomorphic microorganism which was subsequently identified and reported on June 26th as Haemophilus aphrophilus. A bone marrow study was reported as showing normal maturation of red blood cells, increased number of plasma cells with double nuclei.

Electrocardiogram done on June 3, 1965, showed ST depression with T wave inversion and an occasional rare ventricular extrasystole. It was interpreted as showing a non-specific myocardial abnormality. Follow-up EKG's on June 7th and 14th showed ST and T wave changes compatable with digitalis effect and subendocardial infarction. Chest x-ray on May 5, 1965, showed no evidence of an acute pulmonary process, cardiac enlargement, C.T.R. 54.4%. The aorta showed scattered sclerotic plaques. Barium enema done May 6, 1965, showed diverticulosis of the descending and sigmoid colon. Upper gastro-intestinal series was normal. X-ray of the lumbar spine showed minimal hypertrophic changes, sclerotic plaques in the abdominal aorta and fusiform aneurysmal dilatation about level of L-2. Intravenous pyelogram was normal.

The profound anemia was an unexpected finding and a search was made for possible tumor of the gastro-intestinal tract to account for this. None was found. Three days after admission the patient developed fever and on the fourth hospital day it spiked to 104 returning to normal within the same 24 hour period. Because the first blood culture showed a gram negative bacillus the patient was started on oxytetracycline with prompt drop in temperature. She was given several blood transfusions, following which she felt better and her general condition improved. She was continued on digitoxin, diuretics and was given nitroglycerin as needed for angina. Shortly after admission, her liver was found to be enlarged about three fingers breadth below the costal margin and moderately tender. This fluctuated in size from time to time depending upon her state of compensation. The patient was continued on oxytetracycline 250 mgs. every six hours for three weeks. Her temperature remained normal for the most part and on May 30th the oxytetracycline was discontinued. On June 5th the patient had a severe chill with a

temperature spike to 103.6 associated with vomiting. A second blood culture was taken and she was started on penicillin G 1.2 million units every six hours. She was given nasal oxygen and supportive treatment. On June 7th she had another chill with a spike in fever to 102 but at the same time

tified and showed sensitivity to cephalothin among other drugs. After obtaining this report on June 12th, cephalothin was given intravenously 1 gm. every four hours, until June 16th when the dose was reduced to 0.5 gm. every four hours. The patient's temperature returned to normal and except

Blood Culture Bacteriology

	1st Culture	*2nd Culture*	*CDC Results*
Isolation—Venous Blood in Trypticase soy broth—10% CO_2	+ 48 hours	+ 48 hours	
Subculture			
Blood agar and 10% CO_2	+	+	
Chocolate agar and 10% CO_2	+	+	
Thionine	+	+	
Basic Fuchsin	+ +	+ +	
Eosin Methylene Blue	−	−	
Morphology	rod	rod	rod
Gram stain	−	−	−
Carbohydrate Fermentation and Other Reactions			
Glucose			+
Xylose			−
Mannitol		−	−
Lactose	Acid	Acid	A/G
Sucrose			A/G
Maltose	− 24 hours	− 24 hours + 3 days	A/G
OF Media + Glucose			
Open		−	no growth
Closed			no growth
10% Glucose (TSI)			no growth
Slant (Lactose) (TSI)			no growth
Aesculin			−
Fat hydrolysis			−
Mac Conkey's			−
SS Agar			−
Citrate	−	−	−
Cetrimide			−
Urea	−	−	−
Nitrate			+
Indol	−	−	−
MR/VP			−/−
Gelatin		−	−
Litmus Milk		−	−
H_2S		−	
Paper			trace
Oxidase			−
O_2 Requirement	CO_2	CO_2	CO_2
Temperature 25° C.			light
37° C.	moderate	moderate	moderate
42° C.			light
Pigment	−	−	−
Catalase			−
Hemolysis	−	−	−
Motility	−	−	−
Factor V (B.A. with Staphylococcus)		−	

Sensitivity: Very sensitive to cephalothin, demethylchlortetracyline, novobiocin sodium. Resistant to lincomycin hydrochloride, penicillin, oxacillin. Mildly sensitive to ampicillin, erythromycin.

went into profound shock. It was necessary to give her levarterenol to support her blood pressure. The second blood culture again grew the same organism which was a pleomorphic gram negative bacillus still unidenfor one elevation to 99.8 remained normal throughout the remainder of her course. She was given a low salt, low fat diet which she ate moderately well; cephalothin 0.5 gm. every six hours intravenously (intravenous

cannula), meperidine as needed for pain and a continuous intravenous drip of 5% dextrose in water 500 cc. every twelve hours. About June 19th she developed mild phlebitis in the area of the cannula. This was treated with warm compresses with improvement. Her course seemed to be quite satisfactory until June 21st when she complained of chest pain which required meperidine for relief. For the next several days she continued to have chest pain without specific radiation or aggravation of respiration and associated with shock. The shock was of such degree that levarterenol was required intermittently to support her blood pressure. On June 23rd she continued to have pain with shock and her condition became critical. This continued into the 24th and following an episode of vomiting she died suddenly. Autopsy was not obtained.

Blood Culture Bacteriology

Both blood cultures were submitted to the Virginia State Health Department Laboratory and the U.S. Public Health Service Communicable Disease Center, Atlanta, Georgia, which identified the cultures as Haemophilus aphrophilus.

Comments

Endocarditis caused by Haemophilus species is uncommon. This case of Haemophilus aphrophilus endocarditis is the first found in this area. Comparison of this case with previously reported cases shows several similarities. The presence of anemia in the patients previously reported of 7 gm.%[1] and 9.8 gm.%[2] and in this case 7.6 gm.% is striking. The cases have appeared in elderly people—a 59 year old white man,[1] a 66 year old Negro man,[2] and in this case a 74 year old white woman.

Summary

A 74 year old white woman with Haemophilus aphrophilus subacute bacterial endocarditis was initially successfully treated with cephalothin but she eventually succumbed with myocardial infarction and shock.

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Note: Since this report was submitted, another by Leonard S. Goldberg, M.D., and Richard C. Cecil, M.D., entitled Hemophilus Aphrophilus Endocarditis —Treated with Ampicillin, appeared in the Virginia Medical Monthly, 93:73-77, 1966.

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The Mechanism of Epistaxis

With Special Reference to Spontaneous Hemorrhage

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Epistaxis is the most common and readily observed form of spontaneous hemorrhage, a disease with many manifestations that causes, directly or indirectly, much of man's disability.

EPISTAXIS is the most common form of Spontaneous Hemorrhage, a disease I have described as a clinical entity which has a higher morbidity and mortality than any other human affliction.[1] The significance, hematology and mechanism of epistaxis have not been explored. Recently, I advanced several ideas on the significance of this familiar condition.[2] The principal ones are: epistaxis is a hereditary systemic disease with or without telangiectatic lesions; it denotes the presence of an inherent bleeding mechanism that can strike anywhere and be a menace throughout life; and the repetition of the bleeding state may be the herald of the widely variegated lesions of cardiovascular disease. The hematology of epistaxis is limited to the failure to find any abnormality of the hemorrhagic or coagulation factors as far as these are known now. It is singular that this kind of bleeding is seldom mentioned in texts on the hemorrhagic disorders which devote so much attention to the comparatively rare blood dyscrasias. This article presents the first attempt to describe the pathology and mechanism of epistaxis at the bleeding areas.

The purpose of this study was to obtain more accurate information on the mechanism of epistaxis and the nature of the bleeding lesion: although the nasal mucosa is erectile tissue and can augment its blood supply, how does so much blood escape when there are no vessels capable of carrying this large quantity; how is the blood released; does the blood escape passively or is it actively expelled; what becomes of the bleeding lesion and how does it disappear so rapidly. The study so far supports my opinions that the blood is expelled and does not just escape, and the lesion disappears so quickly because decongestion of erectile tissue is effected in minutes and regeneration of the epithelium requires only a few hours.

But this study cannot explain why bleeding should start in the first place nor why it stops so often without treatment. Such bleeding occurs in the brain, the eye and under the conjunctiva, the gastrointestinal tract from the lips to the anus, the genitourinary tract and the bronchial tree and often it is delayed after tonsillectomy, prostatectomy and the removal of cataracts. In fact, spontaneous hemorrhages happen so often and from so many locations that every branch of medicine, including radiology and pathology, must contend with it. I consider these hemorrhages to be comparable to epistaxis in that they are the outcome of hormonal changes; and the lesions, regardless of what they are, as only the source and not the cause of bleeding.[3] Lesions that have existed for months such as carcinoma of the cervix or are hereditary, such as telangiectasia, may bleed suddenly and profusely. Yet the lesion was present long before the bleeding started and still remains after the bleeding has stopped. Epistaxis points to a potent bleed-

ing mechanism that has not been investigated.

In other publications,[4-6] examples of bleeding lesions in the gastrointestinal tract and the walls of arteries have been presented which show they are not the result of the penetration of vessels by ulcers or the rupture of capillaries in the vasavasorum but are areas specifically prepared for bleeding. This article contains similar examples of bleeding areas in the nose. Sections of the bleeding nasal mucosa must be rare as no mention of them is made in the literature nor were any available from institutions which maintain large collections of pathologic specimens.

Case Reports

Case 1. P.R.F., white female, age 7, was first admitted to the hospital in July, 1945. The diagnosis was rheumatic fever and a tonsillectomy was done. She was discharged after three weeks but was readmitted a few days later. This time she stayed a full year and was discharged in August, 1946. The diagnosis was still rheumatic fever to which rheumatic heart disease and splenomegaly of undetermined origin were added.

In September, 1947, she was admitted to the hospital for severe epistaxis. The bleeding was controlled with packs and when these were removed on the fifth or sixth day, the hemorrhage recurred and it was necessary to reinsert the packs. This incident was repeated many times until early in 1953 when intravenous estrogen became available. Usually two injections of this hormone would control the bleeding and it was only then that she could go to school. Epistaxis had been so frequent it prevented her attendance and would frighten her teachers and schoolmates if it happened while in class. She was married in 1961 and was admitted to the hospital for cardiac decompensation in February, 1962, in the seventh month of pregnancy. Delivery was by section one month later. Her last admission was in November, 1964, after the sudden onset of epistaxis and she died before anything could be done. She had had 34 hospital admissions.

Permission was granted for only a partial autopsy and the cause of death was not accurately ascertained. Only the septum, turbinates and spleen were removed. The consensus was that death was due to cardiomegaly with myocardial failure.

Case 2. L.R., white female, age 17, was admitted to the hospital with severe epistaxis. She had had no previous admissions and the history of her illness was vague and of only two months' duration. Examination disclosed hypertension, uremia and anemia with only 4 gms. of hemoglobin and she died a few hours after admission. The cause of death was acute glomerular nephritis.

Case 3. T.F.S., white female, age 44, presents an enigma that was not resolved by the autopsy. This patient began losing weight when she was 37 years old. Because of convulsive seizures and an emotional disturbance, she was sent to hospitals devoted to nervous and mental conditions. In May, 1959, she was admitted to our hospital during a convulsive seizure. The diagnosis was emotional instability due to a paranoid state, a malabsorption syndrome associated with hypoglycemia, chronic adrenal insufficiency and functional uterine bleeding. In 1962, hysterectomy was done to control the bleeding. Between May, 1959 and January, 1965, when she died, there had been 11 hospital admissions. The last admission was on January 2, 1965, for convulsions and moderate epistaxis. Three hours after admission, the epistaxis suddenly increased and hemorrhages also were under both conjunctiva. She died about six hours after admission. The septum and both lower turbinates were removed at the autopsy. Hemorrhages also were found in the liver, spleen, lungs and kidneys but none in the brain.

Pathology

Although these patients died from wholly disparate diseases, epistaxis was a common factor. The patient with rheumatic fever bled from both sides of the nose but most of the hemorrhage was from the right side of the septum and the right lower turbinate. The one who died from nephritis had a sudden explosive hemorrhage from the left side of the septum in Little's area but did not bleed from the turbinates. The third patient did not bleed from the septum at all, only from the turbinates. Grossly the bleeding surfaces were congested but there were no open vessels.

Serial sections were made of all the specimens and a special search was made to discover the exits for the blood. The vessels of the erectile tissue were distended but apertures of any kind large enough to permit the escape of blood were absent. The findings disagree with the popular notion, including my own, that a vessel is open and

bleeding and that the hemorrhage can be stopped if only the bleeding point can be located.

The sections support my clinical observation that the blood does not escape passively but is actively expelled in a highly congested and circumscribed area especially prepared for that purpose.[7] How the blood leaves this area is not clear. Since there are no bleeding vessels, no microaneurysms and the basement membrane is intact except in a few areas, I have come to the conclusion, reluctantly I admit, that the only feasible means is by diapedesis. It is hard to understand how so much blood can escape by this process but it does explain why packs, even when accurately placed, often are ineffectual and why coagulation does not have a role in arresting the hemorrhage. The pulsating character of the bleeding so often noticed clinically suggests that a large vessel is open. This deception must be due to the coalescence of drops of blood during the surge of systole. It is like a stream of water being squeezed out of a sponge.

The pathology of the bleeding lesions of familial telangiectasia resembles that of epistaxis without these lesions. Harrison[8] states that bleeding always occurs from the summit of this lesion and never extravasates into the surrounding tissues. He adds: "It thus appears likely that the factors which determine whether the lesions bleed or not are to be found in the state of the overlying epithelium and not in the vessels themselves." He reports excellent results with the treatment of 20 cases by a synthetic estrogen and he attributes this success to the ability of the hormone to stimulate the restoration of the overlying epithelium. He believes this action is specific only for the nose and that the layer of squamous epithelium which forms over the vascular lesions protects them from trauma and thus reduces the possibility of bleeding. He offers this idea as an explanation for the ineffectiveness of this therapy in telangiectasia of the alimentary canal, brain and lungs but does not explain why this lesion in these protected structures should bleed at all.

However, I have found that conjugated estrogens are far superior to the synthetic for the control of epistaxis and that they are effective for arresting hemorrhage from the alimentary tract unless a vessel, so large that nothing short of ligation will occlude it, is bleeding. I attribute its effects on epistaxis, when properly used and with an understanding of the bleeding state which I have already described, to its action on the vessels and not on the epithelium. Moreover, conjugated estrogens, which should be administered only when the patient is bleeding, can be given in frequent and large doses without the disagreeable side effects so often produced by synthetic estrogens or changes in the sexual characters since it is short term therapy.

Clinically, the bleeding lesion of ordinary epistaxis either on the septum or turbinates and not associated with another disease is not different from those presented here. I have raised the question of what becomes of the bleeding lesion and how it disappears so quickly. Decongestion of erectile tissue which takes place in minutes and rapid restoration of the epithelium appear to be the answer. The encrustations and ulceration sometimes are clearly visible regardless of whether the bleeding stops by itself or is arrested with estrogens. As in menstruation, the desquamation of the epithelium is not an adequate explanation for the cause of bleeding or why at times bleeding can be so profuse without telangiectasia. This same shedding of the epithelium can be seen over a varix of the esophagus while its basement membrane is still intact.

The absence of an actual bleeding vessel should come as no surprise as other epithelial surfaces, especially in the gastrointestinal tract and the uterus, do not have such vessels despite the huge quantities of blood that have escaped. It is not unusual to fail to find the bleeding site in many cirrhotics who die of hemorrhage from esophageal varices

and surgeons often are frustrated by the absence of a bleeding lesion in a stomach filled with blood and clots. Anemia secondary to varices at the distal end of the gastrointestinal tract, commonly called internal hemorrhoids, is not uncommon although the actual bleeding apertures never have been demonstrated.

In these and in bleeding at other locations, the character of the lesion varies with the structure affected and it can take the form of arterial or venous aneurysms, telangiectasia, ulcers, vascularization processes in the walls of arteries and in the vitreous, varices and diverticula. All of these lesions are considered the disease itself and only one, functional uterine bleeding, is acknowledged to be endocrine in origin. Since all of these hemorrhages can be stopped by intravenous estrogen, then these gastrointestinal hemorrhages, including the bleeding from uncomplicated internal hemorrhoids, also must be endocrine in origin. The latter is especially suspectible to this therapy.

Clinical Application

The mechanism of epistaxis reaches far beyond nosebleeding. The possessor of this mechanism is constantly confronted by the prospect of hemorrhage under circumstances over which he has no control and cannot even anticipate. No one can assume he does not have it regardless of the absence of a history of bleeding or the normality of his blood. I have already shown that an awareness of this mechanism and the proper use of estrogens can be a valuable clinical tool in gastrointestinal and other types of spontaneous bleeding and also its importance as a criterion of when to operate, particularly in upper gastrointestinal bleeding when the decision for or against surgery becomes critical. Two cases are presented here to demonstrate its use in delayed postoperative and delayed traumatic bleeding which I consider forms of Spontaneous Hemorrhage similar to the delayed hemorrhages following tonsillectomy, prostatectomy and cataract extraction. Some have found that the prophylactic use of intramuscular or intravenous estrogen has practically eliminated this complication from these operations.

Case 1. A.L.T., male, age 18, caught his left hand and arm in a corn shucker and they were severely mangled. Besides numerous lacerations and fractures of all the phalanges and metacarpals, the skin on the dorsum of the hand was avulsed along with the extensor tendons. An attempt was made to save as much of the hand as possible and a thin graft was taken from the thigh to cover the raw surface on the dorsum. About 36 hours later, bleeding began from not only every laceration but also from the donor surface on the thigh. Until the bleeding started, it had not been known that this boy had had numerous episodes of severe epistaxis since childhood.

The surgeon at once removed all the dressings, placed tight packs on the hand and the raw donor surface and reinforced them with elastic bandages, all to no avail. In a few hours, blood was pouring through the packs and this procedure was repeated. The bleeding continued until intravenous estrogen was administered. Only one dose was required.

Case 2. M.S., male, age 8, slipped while holding a bottle. It broke and he sustained a deep 3 cm. laceration across the proximal part of his right palm. Although there was no evidence of infection or a foreign body, the wound did not heal properly and a fungating mass of granulating tissue bulged throughout the laceration.

He was referred to me three weeks after the injury. Another search was made for a foreign body and the mass was lightly curetted. Four days later, he was awakened in the middle of the night with blood pouring from the wound. Pressure was applied for hours but as soon as it was removed, bleeding started again. He was admitted to the hospital about 10 hours after the bleeding had started. Because blood was spurting from the wound in a pulsating stream, the question arose as to whether a large vessel was bleeding and if so how was it damaged. He had no history of epistaxis or other bleeding but I was impressed with the similarity between this hemorrhage and delayed post-tonsillectomy bleeding which is so amenable to estrogen therapy. Moreover, the administration of estrogen would provide the opportunity to solve the problem of whether a large vessel was bleeding without exploring and probably inflicting additional injury in this complicated area. Accordingly, a light dressing was applied and 10 mg. of estrogen was given intramuscularly. The intramuscular route was chosen because of the ease of administration in children. Although at first, blood began filling the dressing, the bleeding soon stopped. This result indicated that this bleeding had the same mechanism as epistaxis. An hour later

another 10 mg. was given and no further trouble was encountered. The hemoglobin dropped to 6 mg. per 100 cc. of blood. He quickly made up this loss without transfusions and the wound healed without further incident.

Comment

The necessity for halting the bleeding of epistaxis is obvious although it is remarkable how these patients can withstand the loss of large quantities of blood with impunity. In the majority of cases, the bleeding stops by itself but there are others in which the hemorrhage is so alarming as to constitute a real danger. The most common devices are the cautery, sclerosing solutions and packs. According to the pathology depicted here, the use of the cautery and sclerosing solutions is illogical and can do irreparable damage if a large surface is bleeding. Moreover, it is difficult and sometimes impossible to reach the posterior surfaces of the turbinates. Bayon's[9] modification of the Stevens balloon is superior to packs since it provides smooth and even pressure over the entire nasal mucous membrane. Objections to its use are the discomfort it can entail and it cannot exert its pressure under a turbinate. However, the present preoccupation with devices for arresting the bleeding does not answer the questions of why bleeding starts in the first place nor why it ends so often without any treatment.

Many authors have noticed that epistaxis, bleeding from internal hemorrhoids, hemorrhages under the skin and the pulmonary bleeding of tuberculosis which can be arrested by intravenous estrogen,[10,11] occur more frequently during the bleeding phase of the menstrual cycle. Hence epistaxis, as well as these other forms of spontaneous bleeding, must be initiated by an inherent stimulus connected with the endocrine system. This stimulus starts the progression of events, easily seen in the nose which prepares a bleeding state, creates the lesion for bleeding and then dissipates this whole process unless the hemorrhage is from large vessels as in the gastrointestinal tract or the bleeding happens in structures where the blood cannot escape, as in the brain, the eye and the walls of arteries. The reaction then is determined by the nature of these structures. Paterson[12-19] and others state that hemorrhage into the walls of arteries initiates the atheromata or thrombi which eventually occlude them. These hemorrhages can be prevented to some degree by the same hormonal therapy that controls epistaxis.[20-22]

The presence of telangiectasia supports this theory. Although these lesions are permanent, no patient bleeds all the time. The bleeding occurs in episodes with irregular intervals between them. Hence there are times when the telangiectasia are bleeding and when they are not and there must be a difference between the two. Trauma seldom starts the bleeding because so many of these lesions are inaccessible in the posterior spaces of the nose where they are surrounded by walls of bone and hidden by deviations of the septum.

Observers of the last century considered spontaneous bleeding of any kind as an ominous prognostic sign. Epistaxis is not the only form of bleeding associated with disease. Gastrointestinal bleeding happens frequently as a terminal event just as the epistaxis of the three patients presented here. Coronary occlusion, pulmonary bleeding, genitourinary bleeding and cerebral hemorrhage often occur as cardiovascular complications of conditions that have no relation to hemorrhage.

A history of epistaxis or any other kind of spontaneous bleeding is not the mark of a bleeder. But it should be a warning that a bleeding complication is more likely than if there were no such history. Experience has shown that operations can be done on the uterus, stomach and the extraneous vessels of the nose when these structures are bleeding with no more hemorrhage than ordinarily would be expected; and tonsillectomy and other operations can be done during the bleeding phase of the menstrual cycle without abnormal bleeding. The mechanism

described here has already determined its target. When the target has not been fixed, bleeding will occur through any exit available as shown by the two cases of delayed bleeding and as happens so often five or six days after tonsillectomy.

How diapedesis can release so much blood is not clear. There must be at least three actions in this process; first, an increase in the intravascular pressure; second, loss of contractility of the vessel wall; and third, the vessel wall must become more permeable to the passage of blood. I have advanced the hypothesis that a vascular toxin generated by a change or decline in the circulating estrogen becomes concentrated in one or more areas and attacks the vessel walls. This hypothesis may seem fantastic but it is, as Osler remarked about theories in general, better than no hypothesis at all even if it is wrong. That a systemic toxin, similar to the irritating premenstrual toxin, is in operation is evident because of the premonitory symptoms of so many attacks of epistaxis; and that it must be concentrated in a limited area is shown by the destruction of the epithelium and the intense congestion at the bleeding site without affecting hemostasis in incisions made to reach the bleeding sites.

What happens to the epithelium? Is it destroyed or pushed off the basement membrane? A parallel situation is the absence of esophageal epithelium over a varix which actually is an ulcer. Child and Donovan[23] say these ulcers are not the result of esophagitis, pressure or venostasis and that in 10% of their patients who died from esophageal hemorrhage, the source of bleeding could not be found. Apparently, this phenomenon is one of the steps in the creation of a bleeding site during the preparation of the bleeding state, and this epithelium, like the endometrium, is quickly restored when the bleeding has stopped.

Estrogen does not control the bleeding of epistaxis by accelerating coagulation. Nor does it inhibit plasminogen activator and its sequelae for which e-aminocaproic acid may prove useful. Hemostasis and coagulation are not synonymous and clotted blood often interferes with the search for the bleeding area. Moreover, there are no open vessels to be sealed by a clot, and even if there were, the clotting agents would be washed away. Estrogen therapy is essentially replacement therapy and its action is on the vessel walls as Schiff and Burn[24] and Swann[25] have clearly demonstrated. There is also the possibility that it neutralizes a vascular toxin analogous to the menstrual toxin described by Smith and Smith[26] and by Macht[27] which precipitates the bleeding phase of the menstrual cycle.

Historical Note

The early literature on epistaxis, much like the modern, deals chiefly with methods and devices for arresting the hemorrhages. Until Little[28] in 1879, Kiesselbach[29] in 1884 and Woodruff[30] in 1949 designated the most frequent sites of bleeding, the sources of these hemorrhages were not known. Woodruff was the first to describe the bleeding area on and beneath the turbinates but the distinction between digital and cardiovascular epistaxis which he emphasized had been noticed years before.

Two authors reached conclusions I had arrived at independently but they preceded me by over a century. They were Rawdon MacNamara,[31] Professor of Materia Medica, Royal College of Surgeons in Ireland, who in 1862 published perhaps the most comprehensive dissertation on epistaxis which included even the nosebleeding of race horses, and N. Chapman,[32] Professor of Theory and Practice of Physic at the University of Pennsylvania, who delivered "A Lecture on Epistaxis Vel Nasi" in 1839. Both displayed remarkable insight into the problems of epistaxis as they still exist today. These conclusions were: An attack of epistaxis has typical premonitory symptoms and a recovery pattern characterized by some degree of euphoria, the vessels of the nose normally are not large enough to carry as much blood

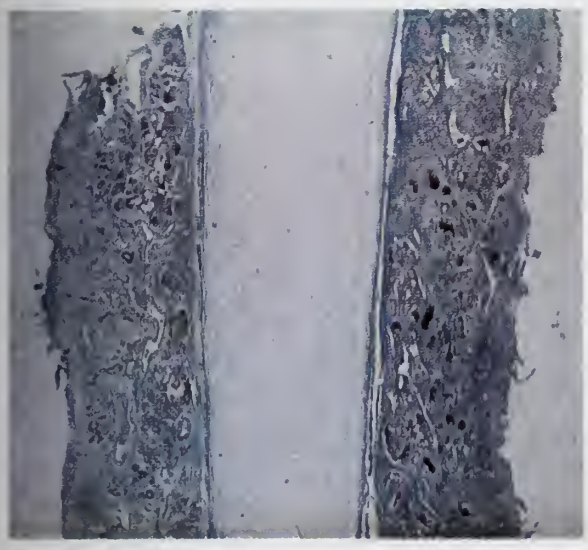


Fig. 1. Rheumatic fever with epistaxis (trichrome stain). This section of the septum from Little's area shows the difference in the degree of congestion on the two sides of the cartilage. Fragmentation of the epithelium is much more severe on the bleeding side and the vascular spaces are still filled with blood after death. On the other side the spaces are empty.

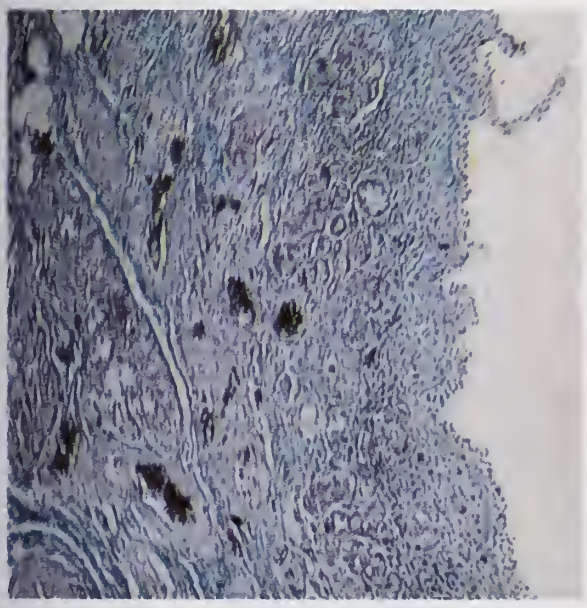


Fig. 2. Higher magnification of Fig. 1. The fragmentation of the epithelium and the engorgement are clearly visible. Note the absence of vessels and capillaries near the epithelial surface. The basement membrane is intact.

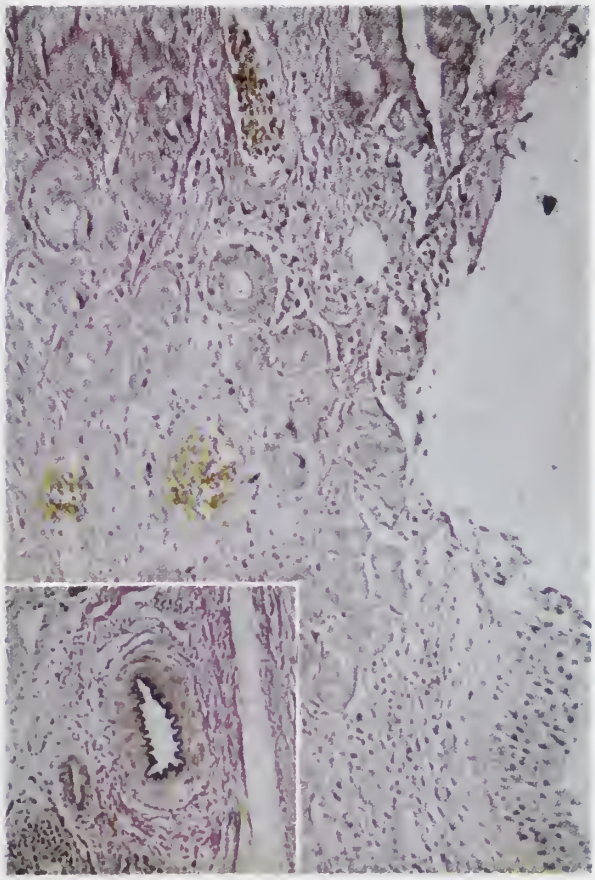


Fig. 3. Another section from Little's area (V.K. stain). The basement membrane along with the epithelium has been swept away leaving fragmented ends in the ulcer. This defect was found in only a few widely scattered areas, not enough to account for the severe bleeding. Note the vessels filled with blood beneath the ulcer, just above the insert. These vessels were traced and no branches or capillaries directed toward the bleeding surface were found. Comparisons with a vessel on the non-bleeding side of the same section and about the same level (insert) shows that the bleeding state has altered the vessel wall. On the non-bleeding side the vessel is empty and the elastica and wall have not been damaged.

This section demonstrates the remarkably selective and limiting character of this bleeding mechanism. Only the vessels and tissues of the target area are altered. The cells immediately adjacent are unaffected. If other areas such as the stomach or brain were the target for bleeding, the lesion would vary according to the structure.

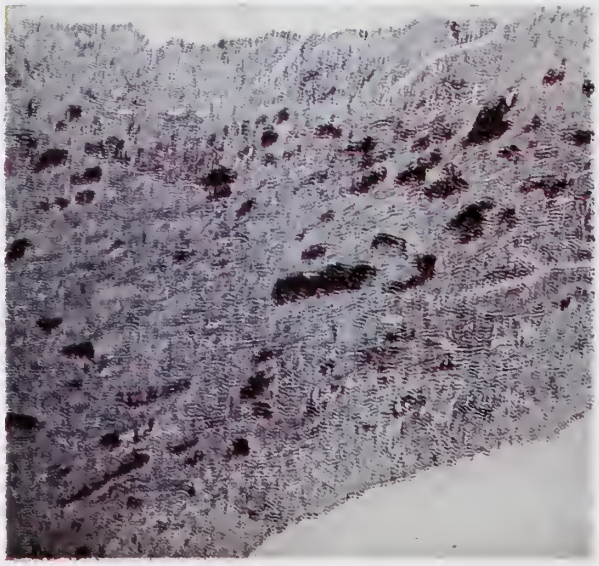


Fig. 4. Section across the lower turbinate of the same patient. The vessels are filled with blood and the basement membrane along both edges is intact. Bleeding must have been more brisk along the lower border as the epithelium is almost completely absent.

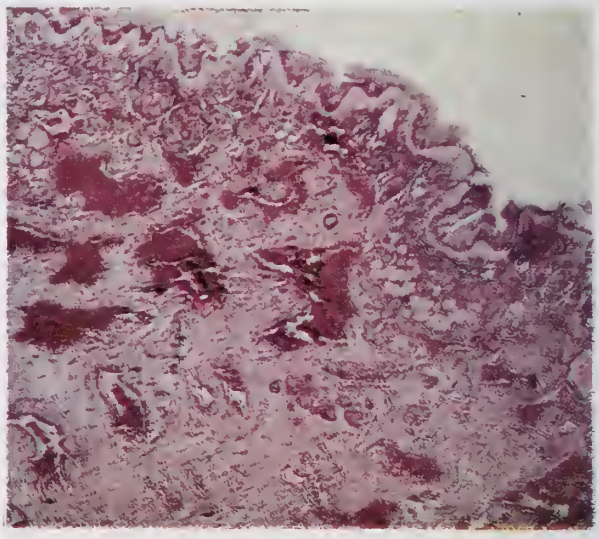


Fig. 6. Case 3. Hemorrhagic diathesis of undetermined origin. The septum did not bleed. The vessels of this turbinate are distended and the columnar epithelium is beginning to fragment.

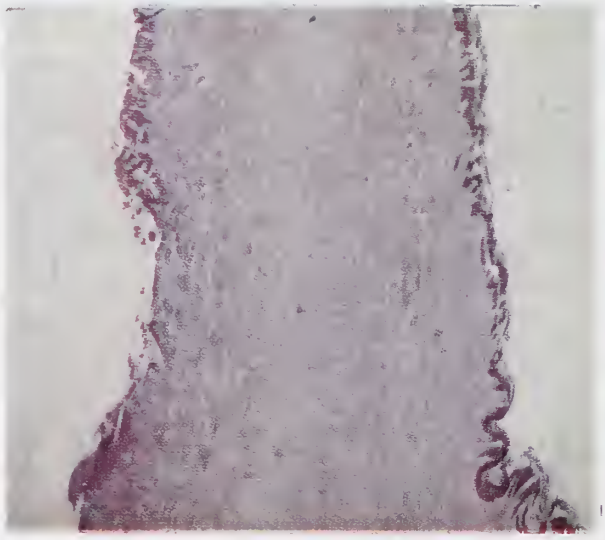


Fig. 5. Glomerular nephritis with epistaxis (h. & e. stain). This patient had what appeared to be an explosive hemorrhage before she died. On the left the force of the bleeding carried away not only the epithelium but also the basement membrane leaving a deep ulcer. On the right as well as the left there is fragmentation of the epithelium. Large vessels capable of carrying so much blood cannot be found and there are no capillaries near the bleeding surfaces.

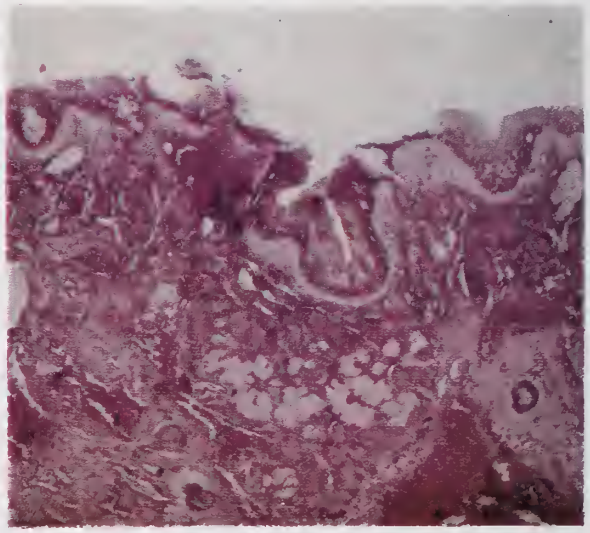


Fig. 7. Section from the opposite inferior turbinate. The vessels of the lower edge are distended with blood, the basement membrane along its entire length is intact and the columnar epithelium in the middle is missing.

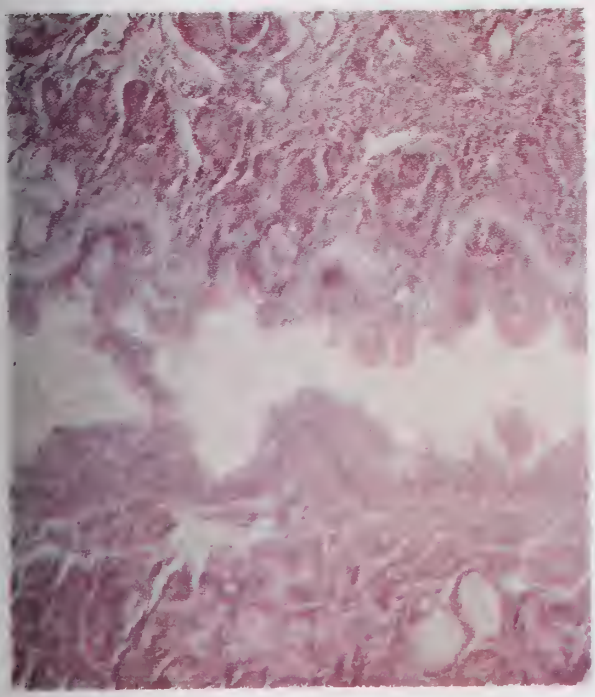


Fig. 8. Higher magnification of portions of the two inferior turbinates placed side by side on the slide. The basement membrane is intact except for one small area of the upper section which is occupied by the aperture of a mucous gland. Note the beginning distintegration of the columnar epithelium.

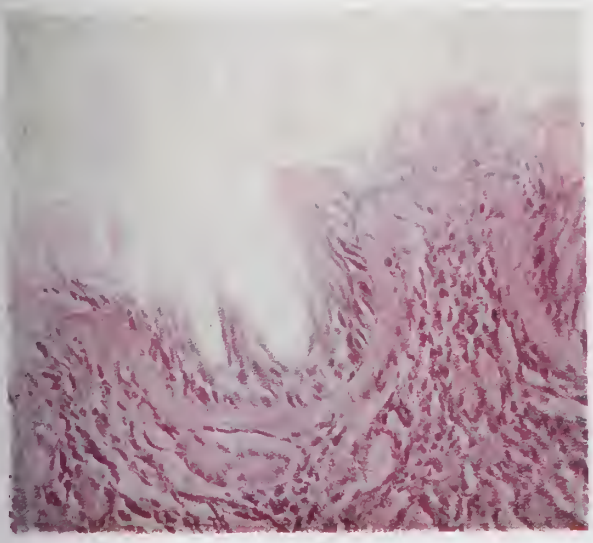


Fig. 9. Higher magnification of one part of Fig. 8. The columnar epithelium on the two plateaus are undergoing destructive changes and beginning to separate. The basement membrane is intact. Despite the engorgement no avenue for the escape of blood can be found.

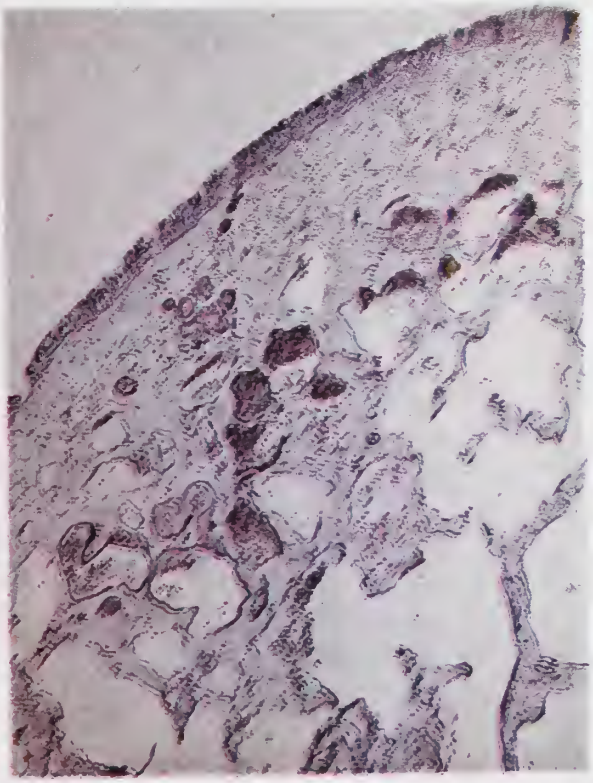


Fig. 10. Section of a telangiectatic lesion on a turbinate, courtesy of Dr. J. L. Titus, Section of Experimental and Anatomical Pathology, Mayo Clinic, who writes: "I was surprised to find that in looking over our extensive files of pathologic material we have only this one case in which material was taken from the nose. This is, of course, excluding biopsy material and parts removed in the course of the excision of tumors."

This patient had had many attacks of epistaxis but was not bleeding at the time of his death which was due to coronary insufficiency and extensive pulmonary thromboemboli. These lesions are among the widely variegated lesions I have pointed out are the consequences of the repetition of the bleeding state, the preliminary step in the mechanism of Spontaneous Hemorrhage, in this case epistaxis. The lesion was merely the source of bleeding.

The telangiectatic vessels consist almost entirely of endothelium without supporting structures. Only a few contain blood now but during the bleeding state they would be distended with blood. Note the epithelium is intact.

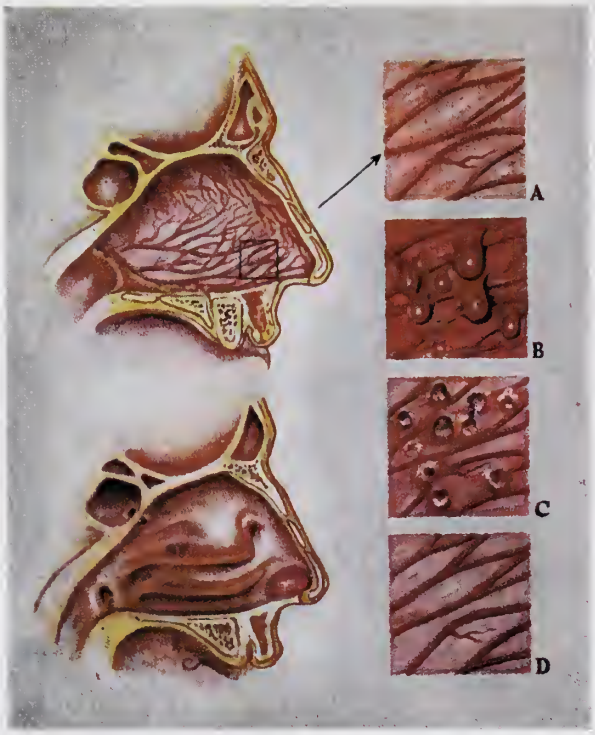


Fig. 11. Mechanism of epistaxis from Little's area and the turbinates suggested by the gross and microscopic pathology of the 3 cases (diagrammatic). A. This illustration is intended to portray the normal mucosa of the nasal septum and the empty vessels in the erectile tissue. B. This area becomes highly congested and the spaces are distended with blood which is being forced through the basement membrane by an unknown mechanism, perhaps diapedesis. If the bleeding is explosive, it will carry along part of this membrane; more often it will take away just the epithelium. The drops coalesce into a stream much like water being squeezed out of a sponge. Note that the blood is escaping from the spongy tissue and not from a vessel or space. C. Bleeding has subsided and the only evidence of the hemorrhage is the areas where the epithelium has been lost. D. The epithelium has been restored and there is no trace of the former turbulent hemorrhagic activity. The bleeding areas on the posterior part of the turbinates also are shown.

The patient of Case 1. had had approximately 100 episodes of epistaxis during the years I had the opportunity to observe her but they left no permanent mark on the mucous membrane of the septum or turbinates. After it was learned that intravenous estrogen would control the bleeding, the transition from A. to D. would occupy between 10 and 14 hours. In others this transition usually would be completed in less than 24 hours.

as so frequently escapes and there is something more to nosebleeding than just nosebleeding.

Another, to my surprise and wonder, 125 years ago and certainly without the materials and facilities available to me, described almost in its entirety my theory of Spontaneous Hemorrhage as a clinical entity. He was George Burrows,[33] Assistant Professor and Lecturer on the Practice of Medicine at St. Bartholomew's Hospital in London, and his description was written in the elegant and lucid style of that day. Burrows speculated on how blood escapes when a vessel is not open and reached almost the same conclusion portrayed here except the term "exhalation" was used instead of diapedesis. The analogy to menstruation in the male as well as the female was "traced" and he had equal difficulty convincing his colleagues that these hemorrhages are a symptom of a systemic disease. Burrows emphatically contradicted the prevailing belief of his medical colleagues that spontaneous hemorrhages always flow from open vessels:

> "There is scarcely a structure of the body which may not suffer from the spontaneous effusion of blood from its vessels. . . It is true that hemorrhage from some of the aforementioned organs as the nostrils, the stomach, the intestines, the lungs and the brain does occasionally result from the rupture of some vessel or vessels of cognizable magnitude; but it is no less certain, that in by far the greater number of these spontaneous hemorrhages, there is no lesion of structure, either of arteries or veins, so far as the most careful dissection informs us."

Burrows presented ample evidence to support his conclusion. Today, my colleagues also hesitate to accept the idea that spontaneous bleeding can occur without a lesion of "cognizable magnitude" despite their own experiences and the evidence depicted here.

Although the authors of that day were influenced by traditions, customs and misconceptions, they were no more vulnerable than we are. They ascribed diseases to single organs and systems which is essentially what I am doing. Nevertheless, their views were not unsound when etiologies of conditions attributed to "humours" are considered in the light of circulating endocrine secretions. The number of gastrectomies, vagotomies, colectomies and ligations that have been done because of the failure to recognize, as Burrows and his contemporaries did, that all hemorrhages do not escape from permanent lesions and the cause should be sought elsewhere, staggers the imagination. Today the absence of a bleeding lesion is explained with the reservation that one exists but cannot be found. The possibility of transient or temporary lesions, such as those of epistaxis which appear and disappear, is disregarded.

Hormones were employed to control bleeding long before I started this investigation. The rationale was predicated upon the idea that since hemophilia is commonly a disease of the male, then the cause must be the absence of the hormones peculiar to the female. Grant[34] in 1904 reported the successful use of what purported to be a whole ovary extract to control the hemorrhage from a laceration of the foot of a 14 year old boy who had been bleeding for several days and was thought to be a hemophiliac. And he cautioned that "just because the bleeding had been quickly arrested, it would be unwise to jump to too hasty conclusions." Birch,[35,36] in 1931, fed her patients ground up pigs' ovaries on toast as a luncheon tidbit to achieve similar results. Heinberg,[37] in 1936, arrested the nosebleeding of six consecutive patients with intramuscular estrogen and De Silva[38] used this same therapy to arrest the delayed postoperative hemorrhages of eight patients. His success parallels my experience with estrogen to control delayed posttonsillectomy hemorrhage.

The opening and closing thoughts of MacNamara's monograph written over a century ago are as applicable today as they were then:

> Few lesions are popularly considered of graver import than hemorrhages, no matter what their

seat; yet of all these, to none is less importance in general estimation attached than to that which makes its exit through the nostrils; and why this should be so, can only be explained on the two-fold ground of its extreme frequency and of ignorance. . . . The first and most important consideration for us to entertain is, whether the popular opinion be correct, and whether that in every case, a bleeding from the nose is but a bleeding from the nose, to be looked on as having but the one source or origin, and to be treated but on the one plan.

In concluding these observations, it can scarcely be necessary for me to remark that the subsequent treatment of every case of epistaxis will require care and judgment on the part of the practitioner. To enter on this topic, however, would be to open for observation almost the entire range of disease. In the commencement of this paper I have pointed out the varied sources to which it may be traced. These will all require consideration on the part of the surgeon, who should always bear in mind that epistaxis is far more frequently a symptom than a disease, and as such we are bound to search for the "origo mali" and seek then to apply our remedy.

Summary

Epistaxis is the most common form of Spontaneous Hemorrhage. This disease, according to my definition, has a higher morbidity and mortality than any other human affliction.

This article presents the first attempt to describe the pathology and mechanism of epistaxis at the bleeding areas. Since spontaneous bleeding can happen anywhere, the pathology and mechanism must vary according to the structure and function of the affected organ. Epistaxis, occurring independently or during the course of many diseases, points to a bleeding mechanism that has not been investigated. This mechanism arises out of a hormonal imbalance and is not derived from abnormalities of the hemorrhagic and coagulation factors as far as these are known now.

Serial sections of the bleeding areas of the noses of three patients who died with but not from epistaxis were made to discover how the blood escapes. Denudation of the epithelium, hyalinization of the basement membrane and engorgement of the erectile tissue were found but there were no micro or macroscopic exits for the blood. The findings lead to the conclusions that the blood escapes by the improbable process of diapedesis; the stream of blood suggesting an open vessel is deceptive and due to the coalescence of the drops during the surge of systole; the bleeding process does not originate in the nose; and the blood is expelled, not passively released.

Clinical applications of this theory have been published elsewhere. Two cases of delayed posttraumatic hemorrhage are presented here as examples of its relation to delayed posttonsillectomy hemorrhage and epistaxis. Since these hemorrhages can be controlled with estrogen, they must have a common origin. Estrogen affects the vessels and may neutralize a vascular toxin. It has no effect on the blood and is not a hemostatic in the sense that it accelerates coagulation.

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18 Liberty Street
Petersburg, Virginia

The intravenous estrogen used was Premarin I.V., Ayerst Laboratories, N. Y.

Editor's Note: Full References will be published in reprints available from author.

Unusual Techniques in Cancer Reconstruction

ALBERT F. BORGES, M. D.
JOHN E. ALEXANDER, M. D.
LEON I. BLOCK, M. D.
Falls Church, Virginia

Three cases illustrate techniques used in reconstructing the face after extensive surgery for malignancy.

THE FOLLOWING THREE CASES are taken from our files and presented here in order to show the surgical techniques used in their reconstruction.

The results obtained do not represent perfection in any of the three cases, but we believe them to be satisfactory, considering the problem involved and the ages of the patients. We are reporting these cases for the following reasons: In Case A, we wish to cite this as one possible method of reconstruction in an "Andy Gump" deformity. In Case B, we are calling attention to a technique which transfers full thickness section of the nostril, not as a composite graft as is being used in relatively recent years, but as a full thickness alar pedicled flap.

Case A Figs. 1 and 2 are the photographs of a 68 year old patient who was referred to the Plastic and Reconstructive Surgery Department for reconstruction following complete resection of the entire lower lip, chin and middle third of the mandible in the surgical treatment of very invasive recurrent carcinoma of the lower lip. All tissue anterior to the tongue had been removed, giving rise to a massive defect of the lower face.

From the Departments of Plastic and Reconstructive Surgery, Fairfax, Arlington and Alexandria County hospitals.

A tubed pedicle was first constructed on the right acromiopectoral region. Medial to this, on the sternal region, a flap was delayed (Fig. 3). This flap was to constitute the outer layer of the reconstructed lip and chin. Two weeks later, flaps based on the lateral aspect of the defect were taken from the cheeks and upper part of the neck and sutured to each other in the midline, in order to form the inner surface of the reconstruction (Fig. 5). Following through, the sternal flap attached to the tubed pedicle was completely detached from the chest and sutured over the raw surface of the previously described hinged flaps (Fig. 4). Three weeks later, the tubed pedicle was severed and the sternal flap completely adapted to its new location.

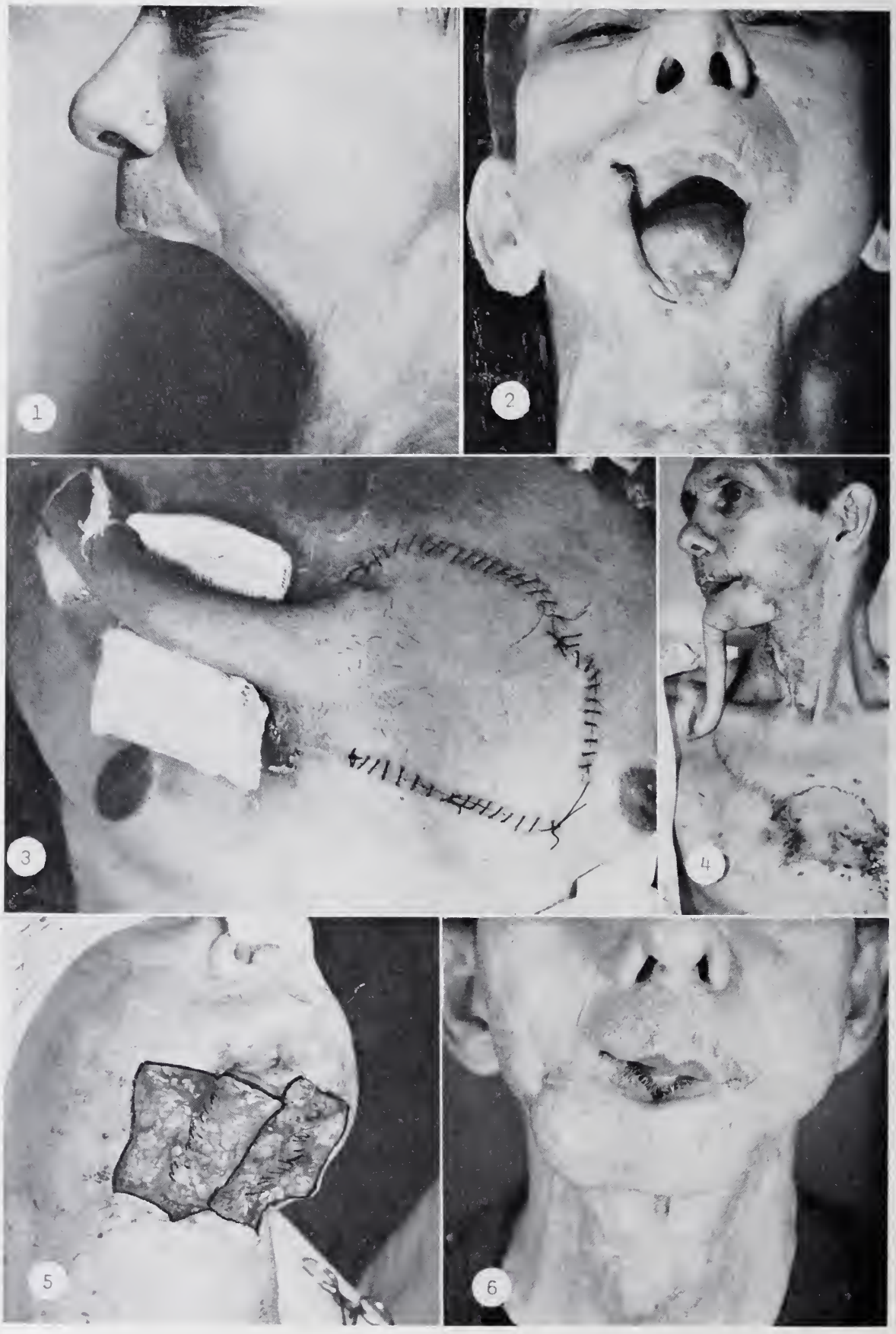
The results were physiologically satisfactory, the patient being able to retain food and the reconstruction provided a watertight closure of his mouth (Fig. 6).

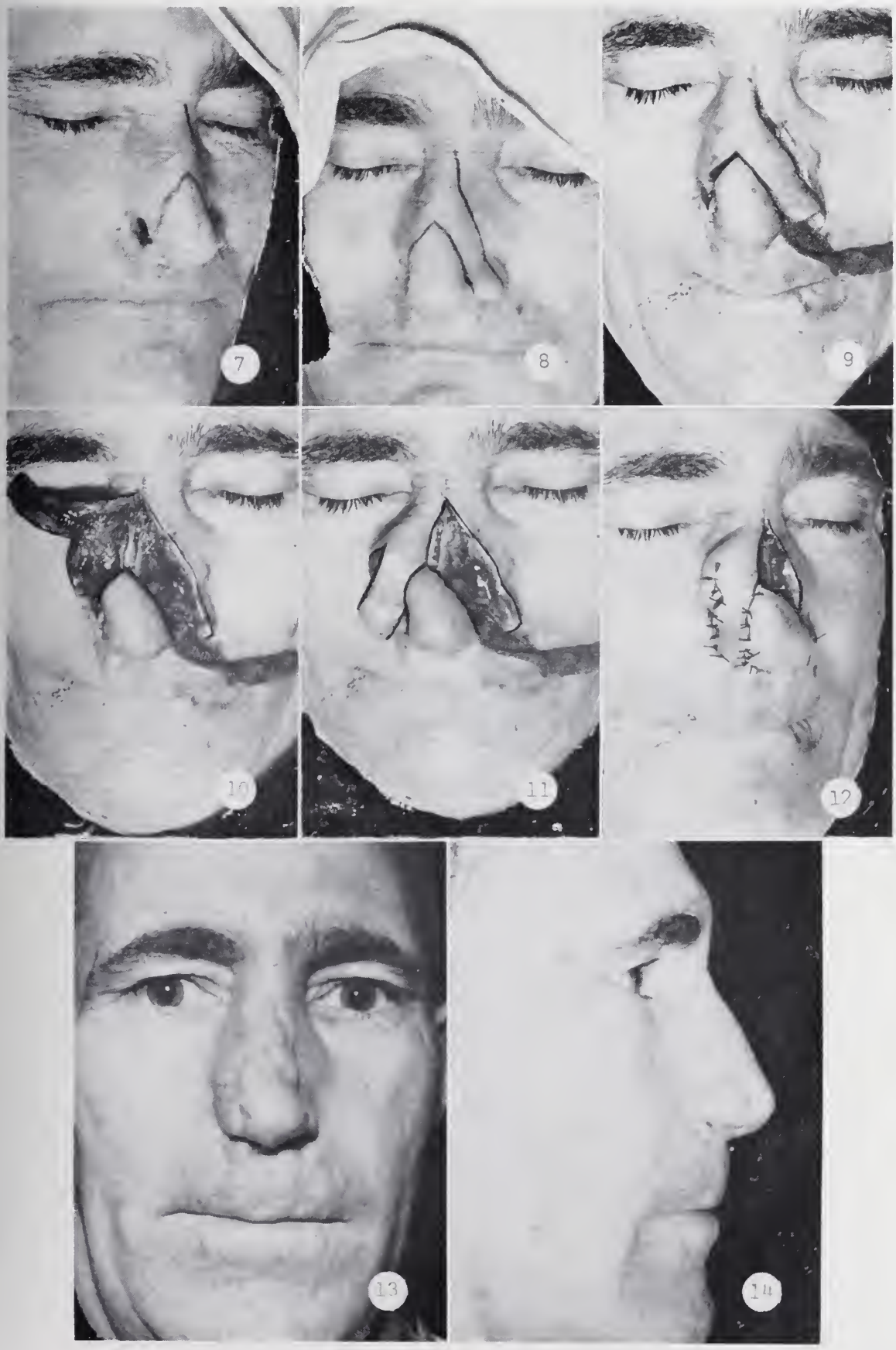
The inner lining, made of skin from the cheek and neck, had the obvious disadvantage of being hair-bearing. However, by careful plucking and trimming, and with the possibility of destroying the hair follicles with electrolysis, this does not seriously impair the end result.

The great advantage of using these hinged flaps instead of free split-thickness skin grafts is that it adds needed bulk to the reconstruction and, at the same time, minimizes shrinkage of the graft.

As we have found in some of these cases, the patient did not desire a bone graft to the mandible.

Case B. A large tissue defect involving the entire right nasal ala and surrounding nasal tissue (Fig. 7). This defect was the result of




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the surgical treatment for carcinoma of the nose. The defect was deemed too large for reconstruction with a composite graft from the ear, which is the simplest and most frequently used technique for reconstruction of a full-thickness nasal ala defect. An "across'nose" full thickness flap was designed and swung over from the left side of the nose to the right side. The design of this flap is similar to one described years ago by Von Langenbeck. The large nasal hump was also trimmed in order to allow easy transposition of the flap (Figs. 8 to 12). Early postoperative views can be seen in Figs. 13 and 14. This technique, of course, can be performed only on cases with large nostrils. The excellent blood supply of the nose allows this operation to be carried out without any inter-



mediate "delay" operation. In this case, as has been previously stated, we are calling attention to a possible solution to this problem.

Case C. A 24 year old patient with multiple, small, flesh-colored, firm and papular skin tumors, diagnosed by biopsy as tricoepithelioma; also known as epithelioma anenoides cysticum of Brooke, and multiple benign cystic epitheliomata (Figs. 15 and 17). Microscopic study by Dr. William F. Enos, showed cysts partially filled with strands of keratin which are lined by stratified basal-like cells without prickles. In some cases, these cells appear to be forming rudimentary hair-shafts.

The patient said the lesions began to appear at the age of thirteen. Of three brothers and three sisters, only one brother does not appear to be affected. The father is afflicted with the same disorder. One of the father's sisters, who does not have any evidence of the malady herself, has nine chlidren, one daughter of which is afflicted with the same disorder. Another sister suffers the same illness and, of her six children, one daughter is afflicted with this disorder. This disease is believed to be a manifestation of an hereditary defect without sex linkage. The lesions start to appear in childhood or puberty; multiple lesions growing simultaneously. Although smaller ones may coalesce to form larger ones, they tend to reach a maximum size and then remain stationary.

Four methods of treatment were discussed:

(1) Complete eradication with a free split-thickness graft coverage of the raw surface, which meant the entire face. This drastic treatment could not be advised in a young woman because the esthetic result would have been disastrous and the disease is not malignant enough to warrant such a procedure. There has not been reported any histopathological evidence of transformation to basal cell carcinoma.

(2) Radiation therapy. This lesion is quite radio-resistant and not indicated in this disorder.

(3) Dermabrasion. With dermabrasion we would be removing as much of the normal as of involved epithelium. This treatment was tried elsewhere in a sister of this patient with very little improvement.

(4) Localized partial excision following the relaxed skin tension lines. This was carried out in one operation and the improvement obtained was most satisfactory (Figs. 16 and 18). A second operation could still further improve the result. The skin borders were closed with silk, only in the largest defects. Further excision could be done as the lesions grow again. Since the growth is slow, the intervals between such procedures could be quite far apart.

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7-Corners Medical Building
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Old Dominion Eye Bank and Research

MASON SMITH, M.D.
Richmond, Virginia

This laboratory receives, processes, and distributes donor eye tissue. Its services extend beyond the state and, indeed, beyond the nation. The Eye Bank also underwrites research in glaucoma and other sight disorders.

SINCE THE ESTABLISHMENT of the eye bank in Richmond, a number of this Society's members have inquired concerning its functions. This report is submitted to familiarize the physicians and surgeons of Virginia with the scope of the Eye Bank's services.

The Old Dominion Eye Bank & Research, Inc., is a receiving, processing, research, and distribution laboratory for donor eye tissue. It has the facilities for the obtaining and prompt delivery of eyes which fill a great need in Virginia. Eye surgeons and patients have been handicapped by the lack of eye tissues required to perform keratoplasties. The Eye Bank receives the donor eye and makes it available to ophthalmologists for sight restoration and research purposes. The Eye Bank underwrites ophthalmic research in Glaucoma, and other phases of sight disorders.

An Eye Bank is a service which functions in many ways. It obtains and keeps files of pledges from persons who are willing to donate their eyes at the time of death. It provides a laboratory to receive the eyes and to aid in their use for transplant and research purposes. It establishes an organizational structure to carry out all the necessary details in connection with procurement and delivery of eye tissues. Within this organized structure, there must be physicians to remove the eyes promptly after death, and special refrigerated containers for fast transportation of the donor eyes across the state, and, in an emergency, beyond the state. Each of these different kinds of service must be maintained in cooperation with all the other aspects of an Eye Bank, for each has an important role to play.

The Old Dominion Eye Bank is a charter member of the Eye Bank Association of American whose primary aims and purposes are to bring strength and unity to an expanding, humanitarian service, to establish collection and distribution centers, to promote legislation of interest to Eye Banks, to promote establishment of new Eye Banks where needed, to promote eye research, to promote cooperation between lay and professional groups, and to furnish information pertaining to Eye Bank organization and operation. Its code of Ethics is:

1. Eye tissue shall neither be bought nor sold.
2. Eye tissue shall be distributed without discrimination based on race, creed, color, or national origin.
3. Eye tissue shall be distributed only to qualified ophthalmologists on a first come, first served basis, except in an emergency.
4. The wishes of an immediate family shall be respected in carrying out the donor's eye pledge.
5. The name of donor and recipient shall not be disclosed without written consent.

Presented at the Annual Meeting of the Virginia Society of Ophthalmology and Otolaryngology, Williamsburg, May 7, 1965.

6. Eye pledges shall be solicited in a dignified manner.
7. Fund raising shall be conducted ethically.
8. Eye Banks shall not compete with one another, and all public information shall be medically approved.

History

In 1956 certain funds were designated for the establishment of an Eye Bank at the Medical College of Virginia. The Hunton Memorial Eye Bank began as a collecting and dispensing station primarily for the local needs, but from the beginning, supported research.

Soon after this time the Lions Club in central and eastern Virginia indicated interest in the Eye Bank program and several Lions were elected to the Board of Directors. During the subsequent years, the Lions provided business know-how and financial support.

In 1961 it became apparent that the Eye Bank could operate more effectively if it had control of its own budget. The Old Dominion Eye Bank was incorporated as an autonomous non-profit corporation. Hunton has continued operating as a research foundation. The Bank has grown steadily. In 1957 10 eyes were processed; in 1958 32 eyes; and in 1964 126 eyes were processed.

The Lions of Virginia districts A B & D have underwritten the entire cost of operation. Funds for research have come from surplus after operating expenses, as well as from gifts and legacies.

Procedures

The procedures for donating eyes is simply to make the wish known by signing a "donor card". Half of the card is sent to the Eye Bank, and half is retained by the donor-to-be. We have been advised that it is proper to clip or staple this donor card to the Virginia driver's license, so that it will be found quickly in case of accidental death.

The procedure for receiving eye tissue is by a request to the Bank from a qualified eye surgeon. Except in unusual circumstances distribution is on a first come, first serve basis. Usually the waiting period is a few days.

Processing Routine

When eyes are received at the Bank, they are examined biomicroscopically, and a culture is taken. If they are in good condition, the surgeon first on the list is called, and shipment is made to him immediately. If the time element is becoming critical, the cornea and vitreous are preserved. We try to keep on hand at all times several preserved corneas and several vials of vitreous. We are able to supply these tissues for lamellar keratoplasties and vitreous transplants.

Shipping containers have been of several types. The ones which control the temperatures best are in use by the Eye Bank now.

Research

Hunton, a part of Medical College of Virginia, is able to direct research, utilizing the superb equipment available to the Department of Ophthalmology. Numerous projects both basic and clinical are being conducted by the Staff of the Eye Department. Other research projects under the Pharmacology Department are in progress.

Recently a Glaucoma Foundation was established in the hope that it will receive contributions for research that might not be given to an Eye Bank. The Foundation will receive not only gifts and contributions from individuals and organizations, but also will receive surplus funds above the operating budget of the Old Dominion Eye Bank. All funds in this Foundation are earmarked for research not only in glaucoma but in eye diseases generally.

Distribution of Service

Old Dominion Eye Bank has supplied corneas for transplantation around the world through its cooperation with the Eye

Bank Association of America and the CARE-Medico International Eye Bank Service. The "Eye Ball Network," an amateur radio service at the national level, is used where there is an emergency need for ocular tissue.

Present and Future

The Old Dominion Eye Bank has become one of the most active in the United States. Still more needs to be done. There is need for thousands more donors. Public interest and awareness are vital. We have a "Speakers Bureau" which will be happy to present the Eye Bank story. Brochures and donor cards are available to all at the Eye Bank. The physicians' offices are appropriate places to make these available to the public. Promotion of Eye Bank services is promotion of sight restoration. We request that all people dedicated to the prevention of blindness help in the expansion of the Eye Bank's programs.

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2035 Monument Avenue
Richmond, Virginia

Multiple Sclerosis Clusters Found

There appears to be an unidentified environmental factor distributed in much the same way as the clusters of multiple sclerosis found in various countries. Identifying this factor may give a clue to the cause of multiple sclerosis (MS), one of the most common primary diseases of the nervous system. The unknown factor seems to indicate that MS is an "acquired exogenous" disease—meaning one acquired from elements outside the body.

"It would be significant to be able to say that MS is an acquired disease," said an editorial in the February 28th Journal of the American Medical Association. "If this concept and the consequent inferences are tenable, a valuable tool in work with the disease may exist."

The author, J. F. Kurtzke, M.D., summarizes recent studies of the incidence of multiple sclerosis. His report appears in the February issue of the Archives of Neurology. Dr. Kurtzke is a staff member of the Veterans Administration Hospital and the Georgetown University School of Medicine, Washington, D.C.

Multiple Sclerosis incidence varies in wide bands across the earth, he noted. The northern United States, southern Canada, and northern Europe are in the highest-frequency band (30 to 60 cases of MS per 100,000 population).

Medium-frequency zones (5 to 15 per 100,000) include the southern U.S., southern Europe, and Australia. Asia and Africa seem to have the lowest incidence of MS. These figures may be distorted by a lack of adequate surveys in some areas.

More important, Dr. Kurtzke noted that in almost every North European country where MS has been surveyed, the disease appears in clustered areas. He concludes that these clusters indicate the presence of an exogenous, or outside, factor associated with the disease. He does not speculate what this factor might be, but does eliminate some possibilities.

Heredity may not be a factor, either. In Denmark and Switzerland, where two generations of patients were surveyed, MS could not be attributed to familial cases. Neither could it be correlated with the distribution of doctors or medical facilities.

Paradoxical Reaction to Presidential Assassination

M. E. SCOTT, M.D.
Radford, Virginia

Relief from depression was obtained as the patient gained insight into her feelings.

FOLLOWING THE ASSASSINATION of President Kennedy, many instances of depression beyond the universal reaction felt by the general populace were observed in neurotic individuals and psychotic people who are preoccupied with death and its occurrence, especially in individuals of high repute. We have observed many of these individuals in our practice. However, the case to be presented here represents a paradoxical reaction to the President's untimely death. The treatment, outcome and resolution of this paradoxical reaction submits material for interesting speculation.

The patient, a 30 year old housewife, married with no children, came into the hospital in the fall of 1964. She had noticed an onset of severe tight feelings in her chest and feelings of fear which were generalized and were particularly accentuated after the death of President Kennedy in November, 1963. She spent long hours watching television of his death and funeral. She talked incessantly about the circumstances of his death, with an outward show of sorrow, but inwardly the patient felt a secret sense of delight that the "old b - - - " was dead. This secret delight increased and was associated with dreams about her father, who had left her mother and her stranded when she was eleven years of age. One dream was rather vivid and is typical of many others. Her dream was of her father riding in a car in 1945 after he came home from the service. He was rather rough with her mother and her in the dream, and as he left she had a sensation of wanting to kill him, but awoke from the dream before this was consummated. Upon awakening, she thought about the mixed feelings she had about her father's departure after mistreating her mother and her; first, her sorrow and later her relief. These ruminations increased and were accompanied by intense guilt feelings centering around both the dream material she had at that time, as well as the guilt feelings about the President's death. The patient became more depressed after this and began to feel a strong disinterest in her housework and in her social relationships.

The patient was treated with Tofranil on an out-patient basis, but received no relief from this medication and finally was brought into the hospital. After being hospitalized, the patient was continued on the Tofranil, and was started in individual and group therapy. She gained insight into her feelings about the assassination and began to associate this to the joy, mixed with grief, that she had had at her father's departure in 1945. After expressing her hostility at this departure of her father and gaining insight into her difficulties, the patient began to feel a sense of relief in the hospital. She was discharged from the hospital after a period of three weeks. She had been continued in out-patient therapy since then with supportive medication of Tofranil, 25 mgs. q.i.d. and has had no recurrences of her severe depression; although she continues to be anxious at times.

From a review of the brief material presented about this case here, dynamic speculation would surmise that the patient's am-

bivalent feelings following the departure of a person to whom she was attached, as she was to her father, was material which she strongly repressed because of its distasteful connotation. In a similar manner, the patient experienced both a sense of sorrow and joy at the death of the President, but transferred her feelings toward her father figure that she had felt at an earlier age toward the President and felt a sense of relief at his death. When the patient experienced emotional insight into these ambivalent feelings and was able to express her hostility in a more open manner without feeling guilty, she obtained relief. As supportive measures, of course, the facilities of the hospital, the other insightful material she obtained from the hospital, as well as the Tofranil, assisted her in her recovery from her depression.

It is in nowise suggested by the context of this article that the patient's paradoxical reaction to the assassination was her only bit of insight, but it is felt that this insight did contribute materially to her recovery.

St. Albans
Radford, Virginia

Massive Screening for Breast Cancer

Preliminary results are encouraging in a massive x-ray screening program to detect breast cancer in women. The February 28th Journal of the American Medical Association describes the cancer-detection program of the Health Insurance Plan of Greater New York and the National Cancer Institute.

Sixty-thousand women between ages 40 and 64 are being examined. Thirty thousand will receive their regular medical care, and will be the control group. The remaining 30,000 are receiving medical checkups and breast x-rays three times a year.

Purpose of the study is to determine whether such a massive screening program actually does help reduce cancer deaths. Final results may not be known for five to ten years.

Twenty-three breast cancers have been detected in the first 10,000 women examined. Sixteen of these cancers (70 per cent) were detected before they had spread to nearby lymph nodes. Twelve of the 23 women underwent tissue examination after x-rays alone detected their cancers. In 10 cases (83 per cent), the cancers were detected before they had spread to nodal areas. This compares with the control group, in which 14 cancers were confirmed, eight of them (57 per cent) in early stages.

Early detection alone, however, cannot decide the usefulness of the screening, a Journal editorial pointed out. "The final test will be whether mortality from breast cancer is reduced, and for this a 5- to 10-year follow-up is required."

"Despite all research and clinical efforts, there has been no significant reduction in the breast cancer death rate over the past 30 years." The massive screening program is "an effort that ranks high in boldness and hope."

They are Sam Shapiro of the Health Insurance Plan of Greater New York, Philip Strax, M.D., of the City Hospital Center at Elmhurst, Queens, N.Y., and Louis Venet, M.D., of New York Medical College and Beth Israel Medical Center, New York City.

Clinicopathological Conference . . . .

Progressive Renal Failure and Hypertension

CLINICAL DISCUSSANT:
John Davis, M.D.,
Assistant Professor of Preventive and Internal Medicine
University of Virginia Hospital

UVH # 53-55-84
Admitted: 3/25/65
Expired: 4/11/65

Clinical History

This was the second University of Virginia Hospital admission for this 17-year-old white male. He was admitted for progressive renal failure and hypertension. His health was presumably good til June 1964 at which time he began to have frequent epistaxis and early morning hemoptysis without other symptoms. During September 1964 he noted increasing weakness and shortness of breath. At this time he was observed to have enlarged cervical lymph nodes, pallor, and a pharyngitis by his family physician. Penicillin therapy was instituted for a streptococcal pharyngitis. He developed a skin rash and therapy was changed to tetracycline. In November 1964 he began to vomit and a duodenal ulcer was thought to be present on an upper gastrointestinal series. During this examination hematuria was detected as well as azotemia and acidosis. The BUN increased to 107 mgms%, and he was sent to the University of Virginia for his first admission on 18 November, 1964. Except for pallor and a blood pressure of 130/95 his physical examination was normal. His hematocrit was 29% on admission. This was increased to 36% with transfusions. The urine had 2.8 grams protein/24 hours. The microscopic examination showed innumerable red cells, red cell casts and doubly refractile fat bodies. The throat culture was negative and the ASO titer was 50 units. The blood studies revealed a CO_2 combining power of 19, the calcium was 9.6 mgms%, and the phosphorus was 8.1 mgms%. The urea was 263 mgms%, creatinine 9.6 mgms%, and the creatinine clearance was 12.4 ml/min. He gradually improved during his first hospital admission and his urea decreased to 180 mgms% and the phosphorus and creatinine decreased to 4.4 mgms%, and 8.3 mgms% respectively. After his discharge he was seen as an outpatient on several occasions and the urea concentration ranged between 124-160 mgms%. His creatinine was 5 mgms% on 13 January 1965 but was usually 9 mgms%. The creatinine clearance remained at about 25 ml./min. The 24 hour urine protein increased to 9 gm/24 hrs. and he was given 80 mg Prednisone every other day. His blood pressure gradually increased to 180/120 over the intervening months and ankle edema appeared. An occasional blood transfusion was required to keep the Hct around 30%. Exertional dyspnea was also a problem. His diastolic blood pressure increased to 140 and visual difficulties arose. The patient was referred here for his second admission on 25 March, 1965.

He had scarlet fever in 1960. The family medical history was negative.

The physical examination revealed a tachypneic moon faced young man. The respirations were 30 and moderately deep. The pulse was 140 and regular. The blood pressure was 180/120. The fundoscopic examination showed several large exudates, many small hemorrhages and marked blurring of the disc margins. The skin and mucous membranes were pale. The neck was supple and no venous distention was

present. The examination of the lungs was negative except for bilateral moist basal rales. The heart was not enlarged and no murmurs were heard. An apical diastolic gallop was present. The liver was felt 4 cm below the right costal margin and was tender. An abdominal fluid wave was demonstrated. Ankle, sacral and hand edema was present. Neurological examination revealed alternating asymmetry of deep tendon reflexes with neuromuscular irritability.

The hematocrit was 17% and the white blood count was 8,700. The urine gave a 3-4 plus test for protein. The microscopic examination of the urine showed 12 WBC, innumerable Rbc, many granular casts and double refractile fat bodies. The ASO titer was 50 Todd units. The serum sodium was 130 mEq/L and the potassium was 4.2 mEq/L. The CO_2 combining power was 19 mEq/L and the chloride was 96 mEq/L. The urea was 186 mgms%, and the creatinine was 10.7 mg%. The uric acid, calcium and phosphorus were 8.7, 6.7 and 7.7 mgms% respectively. The creatinine clearance was 6 ml/min. The 24 hour urine protein was 5 grams. The LE preparation was negative. Serum electrophoresis showed 1.6 grams of albumin and increased Beta globulin. The electrocardiogram showed non-specific ST-T wave changes.

On admission, reserpine and hydralazine were given for his elevated blood pressure and alpha methyldopa was subsequently added. Digoxin was given for his apparent heart failure. His pulmonary congestion improved but there was little effect on his hypertension. An attempt to augment his effective circulating volume with albumin infusions was met with recrudescence of pulmonary edema. The hematocrit was kept near 20% with packed red cells. On 11 April 1965 following some improvement in his recurrent pulmonary edema he ceased to breathe.

Differential Diagnosis

Dr. John S. Davis, IV. This is the case of a 17-year-old boy who had been in good health until the onset of frequent epistaxis and early morning hemoptysis in the summer of 1964. From the outset then this would appear to be a rather ominous situation: One would at this point be particularly worried about the possibility of leukemia, tuberculosis, pulmonary emboli, and hypertension, to name but a few of the differential considerations.

We then learn that this boy soon noted weakness and shortness of breath, and on physical examination was found to have enlarged cervical lymph nodes, pallor, and pharyngitis. Again I think leukemia would remain one of the major considerations at this juncture. The boy was then treated with penicillin for his sore throat and developed a rash which might suggest an allergic diathesis, but more probably was no significance in the boy's overall problem.

The duodenal ulcer, however, would seem to deserve special considerations. One must wonder whether the hemoptysis was in reality hematemesis. If this were the case, the entire problem would undergo a major shift in differential considerations. A duodenal ulcer in this age group would be most unusual. We would wonder about the possibility of such unusual disorders as the Zollinger-Ellison Syndrome or a duodenal ulcer due to a secondary malignancy. We should also consider diseases which are associated with duodenal ulcers such as hyperparathyroidism and tuberculosis. No matter what the etiology of the ulcer it does remain a possibility that the hemoptysis was in truth hematemesis.

About this same time hematuria, azotemia, acidosis, hypertension, and severe anemia were noted. Along with these findings examination of the urine revealed evidence of both nephritis and nephrosis. In essence it would appear that many of the characteristic features of subacute glomerulonephritis with severe renal insufficiency were present. This is remarkable in what would appear to be such a relatively short period of time. The situation continued to deteriorate while

the patient was on large doses of steroids, and at the time of admission to this hospital he showed evidence of having a most fulminating glomerulonephritis. Furthermore, the epistaxis and what we must assume was hemoptysis, remained unexplained on the basis of simple glomerulonephritis. One must then postulate either another disease to encompass this spectrum of findings, or consider the possibility of more than one disease. In any event a most seriously ill individual was admitted to the hospital in a rapidly deteriorating condition.

The physical examination simply confirmed the findings of malignant hypertension and gives evidence of some cardiac decompensation. We are surprised to note that though the liver is enlarged and tender, there is no venous distension. We would like to know if a venous pressure was obtained and if an hepato-jugular reflux was obtained. The diastolic gallop certainly suggests imminent or present cardiac decompensation. The anasarca may be a manifestation of either heart failure and/or protein deficiency. It is possible that the enlarged liver represents another problem such as metastatic disease to the liver or infiltration by some other process? If the venous pressure was not elevated, we would still wonder about the possibility of left heart failure with hemoptysis on this basis. This brings to mind such a lesion as mitral stenosis, but since no murmur is described, no history of rheumatic fever is given and since the hypertension would still remain unexplained, we must discard this as a likely possibility. The neurological examination revealed evidence of generalized irritability which is fully consistent with the lowered calcium level even in the face of severe acidosis. One would expect that if this patient were treated with alkalinizing agents that the irritability would become much worse. We would like to know if a Chvostek sign was elicited.

Laboratory findings revealed a severe anemia and a normal white count. One wonders what the differential showed since the possibility of leukemia was entertained early as a diagnostic consideration. Also the presence of an increased eosinophil count would support the possibility of a diffuse vasculitis. The other studies sustain a picture of a severe renal insufficiency with marked azotemia. All of the laboratory values would seem to be explained on this basis, and I feel no other comments on these studies are necessary. We are interested in the immunological data and are told only that the LE prep was negative and that the serum electrophoresis showed a very low serum albumin and increased beta globulin. We wonder if the increased beta globulins were of a monoclonal variety since the possibility of multiple myeloma would be an outside consideration. We also wonder whether a complement level was obtained because of the strong likelihood of finding this in very low ranges if this were indeed acute glomerulonephritis or progressive, chronic glomerulonephritis. It has been shown by Lange[1] that the complement level can be used as a prognostic guide in glomerulonephritis, and that it will often remain low in patients who go on to succumb to their renal failure. The ECG which is reported as showing non specific ST-T wave changes suggests by the absence of vector changes, that there is no particular chamber enlargement or muscle hypertrophy which would imply long standing valvular or other myocardial disease. I feel that the ECG supports a non-specific, secondary cardiac change. I would now like to ask Dr. Craddock to show the x-rays.

Dr. William Craddock: The initial chest film (Fig. 1) taken on 11/18/64 demonstrates clear lung fields, a normal heart and mediastinum and no accentuation of the pulmonary vascularity. On the patient's final admission on 3/25/65 (Fig. 2) both lung fields show an extensive soft, ill-defined and semi-confluent infiltrate which is most marked at the bases, but is also present in the upper and middle zones. The heart is a little increased in size. The subsequent

film (Fig. 3) taken two weeks later is striking in that the bilateral infiltrate has entirely resolved, and the heart unchanged in size. The final film (Fig. 4) after 48 hours



Fig. 1

shows the reappearance of the infiltrate to an even greater degree, with almost complete opacity of both bases, but still with no change in the cardiac silhouette.

The changes in the lung fields suggest at

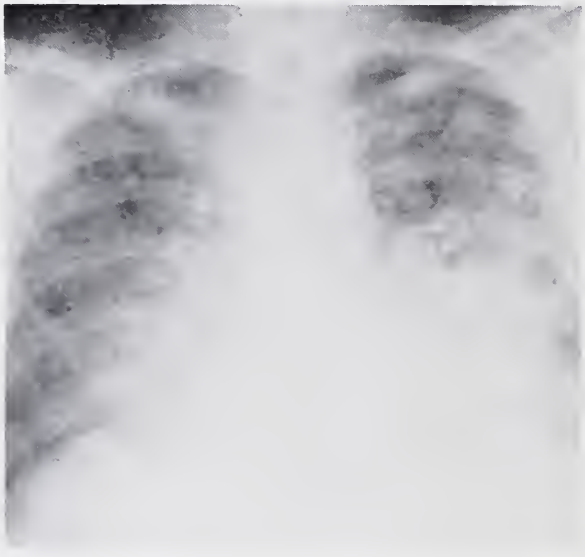


Fig. 2

first sight pulmonary congestion, but there is no significant increase in cardiac size or pulmonary congestion. The rapid waxing and waning of the pulmonary opacities virtually excludes infection, infarction, collagen disease, alveolar proteinosis, Hamman-Rich Syndrome, or hemosiderosis. In the



Fig. 3

light of the history and clinical findings these changes can best be explained on the basis of pulmonary alveolar hemorrhage with subsequent rapid absorption. This is seen in association with glomerulonephritis



Fig. 4

and renal failure in Goodpasture's Syndrome.

Dr. Davis: We are then told that the patient continued to deteriorate and finally expired in azotemia and what appears to be pulmonary edema.

What then are the major considerations here? I think there are four significant possibilities: (1) Acute glomerulonephritis with duodenal ulcer and hematemesis masquerading as hemoptysis. The changes on the chest x-ray might then be explained on the basis of uremic pneumonitis, a secondary event.

(2) A generalized vasculitis. The absence, however, of arthritis, skin lesions, neuritis, fever, abdominal pain, and leukocytosis all mitigate against this possibility. Nevertheless in this 17-year-old boy the occurrence of a disorder related to periarteritis nodosum remains a distinct possibility.

(3) Idiopathic pulmonary hemosiderosis. This particular disease is not usually associated with renal failure and if this is the pulmonary problem one must find another cause of the renal disorder. This disease is also found most commonly in the pediatric age group and seems an unlikely eventuality here.

(4) Goodpasture's Syndrome. It appears to me that this case would fit into the pattern of the disease entity sometimes called Goodpasture's Syndrome, a combination of idiopathic pulmonary hemosiderosis and glomerulonephritis. I would like to show three slides from the paper of Benoit, et al. published in the September, 1964, issue of the American Journal of Medicine. One will note that in the collected series of 52 cases of Goodpasture's Syndrome, hemoptysis was the initial symptom in 94 per cent of the cases. Hemoptysis was present one time or another in 98 per cent. It is apparent that several other prominent symptoms and signs in this series were also features of this patient's disease course. We will note that anemia was a constant manifestation and that azotemia was present in 100 per cent of the cases. We also find the same urinary findings in our patient as are described in the majority of patients in the collected series. In figure 1 from this article we note that the most common age of onset of Goodpasture's Syndrome is in the 16-20 age group, encompassing precisely the age of our patient here.

Goodpasture's Syndrome remains a progressive, fatal disease of unknown etiology which is thought to have a possible autoimmune mechanism. Though it is possible that this patient has two different diseases to explain the pulmonary and renal findings, I think it is much more likely that everything can be explained on the basis of one disease. Even if this patient turns out not to have Goodpasture's Syndrome on pathological examination, I would favor the diagnosis of Goodpasture's Syndrome again were I to see a boy with a similar picture on the wards in the near future.

Pathological Discussion

Dr. Benjamin Sturgill: At autopsy, there was edema of the ankles, 100 cc. of ascites, and bilateral pleural effusions (300 cc. right, 400 cc. left). The heart was moderately enlarged (480 gm.), chiefly the result of left ventricular hypertrophy. The most important findings were in the kidneys and lungs. The kidneys were pale and swollen and together weighed 450 gm. The cortical surface showed splotchy areas of congestion and a very fine granularity (Fig. 5). On the cut surface the outer half of the cortex was grey and homogenous, while the inner half was outlined by bright yellow lipid. Microscopic sections of the kidney showed many hyalinized glomeruli and moderate interstitial fibrosis; however, some glomeruli still showed large hypercellular capillary tufts and epithelial crescents of Bowman's capsule characteristic of a subacute glomerulonephritis (Fig. 6). The basement membranes of most of the capillary loops were thickened, and tubules contained both protein and red blood cells. These findings would place the renal lesion somewhere between a subacute and chronic glomerulo-

nephritis, most probably a late subacute glomerulonephritis.

The lungs were heavy and rubbery (2000 gm. together), and the cut surface was

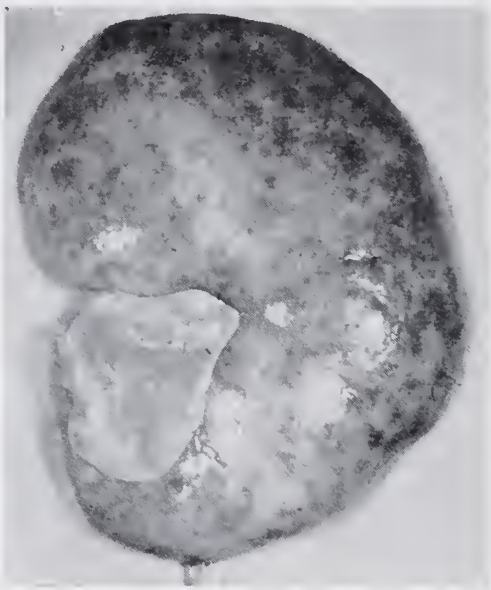


Fig. 5. Large pale kidney with splotchy area of congestion in the cortex.

studded by numerous, 1-2 cm, dark, red, firm, hemorrhagic nodules superimposed on a brown background. The gross appearance was that of hemosiderosis and hemorrhagic

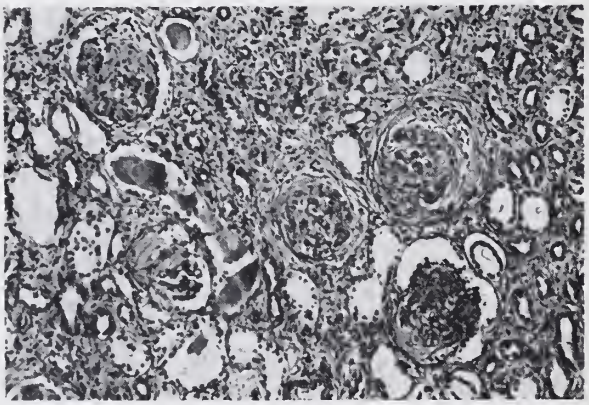


Fig. 6. Photomicrograph of the kidney showing hypercellular glomeruli, epithelial crescents of Bowman's Capsule, interstitial fitnous and protein casts in tubules. H&E X 160.

bronchopneumonia, but there were no areas of necrosis and no significant tracheobronchitis. Microscopically, the alveolar septa were thick and hypercellular, and the alveoli in most areas of the lung were filled with a combination of hemosiderin-laden macrophages and fresh blood (Fig. 7). The hypercellularity of the alveolar septa was due in part to an increase in endothelial

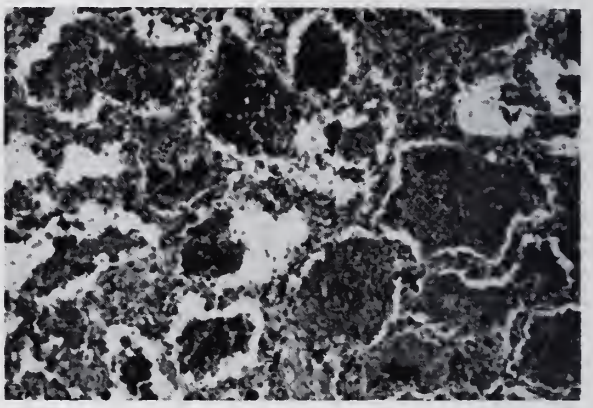


Fig. 7. Photomicrograph of the lung showing thick hypercellular alveolar septa, dark hemosiderin—laden macrophages in many alveoli and recent hemorrhage. H&E X 160.

cells, but there was also an infiltration of lymphocytes, plasma cells, and polymorphonuclear leukocytes.

The combination of subacute glomerulonephritis and pulmonary hemorrhage, commonly referred to as the Goodpasture's Syndrome, has been the subject of considerable interest during the past ten years. The most frequent question asked concerning this syndrome revolves around the relationship of the renal to the pulmonary lesion. The question is whether the pulmonary lesion is merely a complication of an ordinary subacute glomerulonephritis or whether the two lesions have a common pathogenesis. Recent studies have shown gamma globulin localization in glomeruli of patients with this Syndrome[1] suggesting that an immunologic mechanism similar to that postulated in ordinary glomerulonephritis is responsible for the renal lesion. In an attempt to shed some light on this question, both the kidney and lung in this case were studied for evidence of gamma globulin localization.

Eight micron-thick sections of both the kidney and lung were made with the cryostat and stained with a highly specific fluorescence-labeled rabbit antihuman gamma-



Fig. 8. Glomerulus stained with fluorescence labeled anti-human gamma G globulin showing fluorescence along the basement membrane. X 450.

G globulin* and observed with fluorescent microscopy. The kidneys showed intense fluorescence of glomerular tufts, indicating localization of human gamma-G globulin to these structures (Fig. 8). The uninterrupted basement membrane indicates the site of gamma globulin localization. Sections of the lung disclosed intense fluorescence of alveolar septa (Fig. 9). Similar immunofluorescent studies of lung from patients with uremia, pulmonary congestion, and hemorrhage in a number of other diseases have been negative, as have the studies of

* This anti-human gamma-G globulin was prepared according to the method described by Strauss et al (2), and labeled according to the method of Wood et al (3) by Dr. R. L. Smith and Dr. B. C. Sturgill, Department of Pathology, University of Virginia School of Medicine, Charlottesville, Virginia.



Fig. 9. Lung stained with fluorescence labeled antihuman gamma-G globulin showing fluorescence of alveolar septa. X 630.

the kidney in diseases other than glomerulonephritis.

Although these studies do not tell us the etiology of Goodpasture's Syndrome, they do suggest that the pulmonary lesion in this disorder is an intrinsic part of the disease itself, and not merely a complication resulting from uremia and congestion. The recognized similarity of certain antigens in the kidney to those found in the lung, and the ability to produce nephritis experimentally by the injection of anti-lung antibody,[4] gives rise to the intriguing possibility that this syndrome is due to the development of an auto-antibody which reacts with both glomeruli and alveolar septa. The other possibilities are that this is a more complete expression of Ellis type I glomerulonephritis, or according to the concepts of Dixon et al,[5] the result of circulating antigen antibody complexes.

In summary, I think that the anatomical findings substantiate the clinical impression that this is a case of Goodpasture's Syndrome. The demonstration of gamma globulin localization in the glomerular tufts and in the alveolar septa support the idea that these two lesions are the result of the same pathogenetic mechanism.

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Special Report on Pollution

Our increasingly dirty skies, polluted water, and mounting piles of rubbish are health problems that must be solved soon, says the March Today's Health magazine. The magazine, published by the American Medical Association, devotes most of the issue to a special report on pollution and environmental health. Air pollution, one article noted, is subtly affecting everything we buy and do, yet we are not using all the available tools to combat it.

We're learning more about re-using waste water, but water pollution is robbing us of one of the elements most vital to existence.

Another article tells how engineers are studying ways to reuse the thousands of tons of rubbish created in this country every day. Some can be used as heating fuel, some goes into useful sanitary landfills, and some metal waste can be salvaged. Getting rid of rubbish, however, is a mounting headache. Americans are throwing away 800 million pounds of it every day; collecting and disposing of it costs more than $1.5 billion a year.

Other articles tell of the continuing scientific effort to assure the safety of chemically treated food, and of the growing interest in the relationship of trace metals to nutrition.

Our national planning for conservation involves a struggle between the "preservationists" and the "utilizationists," says an article by Hal Higdon. The public, caught in the middle, has a right to ask for a workable national plan.

Correspondence . . . .

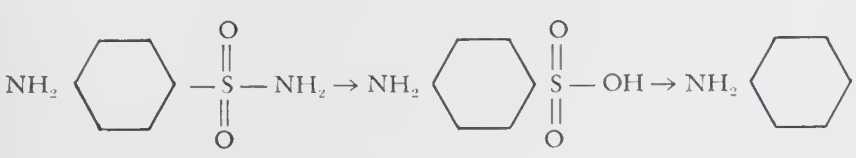
"Cigarette Smoking and Cancer of the Bladder"

To the Editor:

In the December 1965 issue of the Virginia Medical Monthly, Dr. Leo I. Hallay postulates that the metabolic degradation of sulfanilamide and derivatives yields aniline and he implies that the latter is responsible for an increasing incidence of cancer of the bladder. I take issue with Dr. Hallay's hypothesis on two counts:

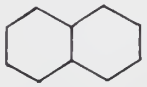
a. Aniline is not a metabolic end product of sulfanilamide in man, and
b. Aniline does not cause bladder cancer.

With respect to the former, Dr. Hallay points out that the acid hydrolysis of sulfanilamide goes through two stages: cleavage of the amide nitrogen bond with the formation of p-aminobenzene sulfonic acid and subsequently desulfonation of the latter, viz:



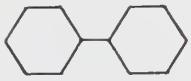
However, both steps in this reaction take place only under severe conditions; i.e., long periods of refluxing at high temperatures with strong mineral acids. To my best knowledge, no one has ever been able to demonstrate that the human body possesses the ability to cleave this amide nitrogen bond let alone to desulfonate the resulting acid.

With respect to the second point, "Occupational Aniline Cancer of the Bladder" is an outmoded concept. Aniline does not cause bladder cancer. This term arose several decades ago when it was discovered that there was an abnormal incidence of bladder cancer among workers engaged in manufacturing aniline dyes. The term soon fell into disfavor when it was discovered that the cause actually was β-naphthylamine



NH_2, a chemical intermediate in the process. Subsequent observation showed conclusively that this compound is a potent bladder carcinogen and that aniline itself does exhibit this property.

In recent years several other compounds have been identified as bladder carcinogens. The most important of these is 4-aminodiphenyl



NH_2, which seems to be as potent an agent as β-naphthylamine. Benzidine, the diamino analog of this compound is probably also a bladder carcinogen, albeit a weak one. Conclusive evidence incriminating still other compounds is lacking, although several are suspect. It is perhaps worthy of note that none of the compounds that have been incriminated or under suspicion as bladder carcinogens in man are mono cyclic hydrocarbons.

It is unfortunate that the term "aniline bladder cancer" is still heard occasionally, for it is a misnomer that often creates a good bit of confusion.

Sincerely yours,
H. H. Golz, M.D.
Corporate Medical Director

January 14, 1966

American Cyanamid Company
Wayne, New Jersey

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Comprehensive Health Services for Children Provided by 1965 Amendments to the Social Security Act

The 89th Congress amended the Social Security Act to provide additional funds to the Children's Bureau in support of special projects to provide comprehensive child health services, including medical care for children and youth. These programs are to be conducted primarily in areas with concentrations of low-income families.

The pertinent provision is Section 532 of Title V, Part 4 of the Social Security Act, as amended, and provides essentially as follows: ". . . grants may be approved. . . to pay not to exceed 75 per centum of the cost of projects of a comprehensive nature for health care and services for children and youth of school age or for preschool children (to help them prepare to start school). No project shall be eligible for a grant under this section unless it provides (1) for the coordination of health care and services provided under it with, and utilization (to the extent feasible) of, other State or local health, welfare, and education programs for such children, (2) for payment of the reasonable cost (as determined in accordance with standards approved by the Secretary) of impatient hospital services provided under the project, and (3) that any treatment, correction of defects, or aftercare . . . is available only to children who would not otherwise receive it because they are from low-income families or for other reasons beyond their control; and no such project for children and youth of school age shall be considered . . . of a comprehensive nature . . . unless it includes . . . at least such screening, diagnosis, preventive services, treatment, correction of defects, and aftercare, both medical and dental, as may be provided for in regulations of the Secretary."

The statute authorizes the following appropriations:

$15,000,000 for the fiscal year ending June 30, 1966
35,000,000 for the fiscal year ending June 30, 1967
40,000,000 for the fiscal year ending June 30, 1968
45,000,000 for the fiscal year ending June 30, 1969
50,000,000 for the fiscal year ending June 30, 1970.

These special project grants may be made to: the State Health Agency in any State; with the consent of the State Health Agency to the Health agency of any political sub-division of the State; to the State Crippled Children's Agency; to any school of medicine; and to any teaching hospital affiliated with a school of medicine.

This money was made available as a result of the identification of health needs of preschool children and children and youth of school age, particularly children from low-income families. These needs had been unmet due to the increase in the child population and particularly the great increase in the proportion of low-income families in major cities. This has resulted in overcrowding of clinics and inadequate preventive health services and medical care for many of these children.

Health supervision of children in the preschool years is very important since many childhood disabling illnesses, both physical and emotional, have their origin in infancy or the preschool years.

National studies have shown that large numbers of children entering school, or in

school, are in need of eye care. About 7 percent have some hearing loss when they enter school. One child in five under the age of 17 has a chronic ailment. Half of the children under 15 years of age have never been to a dentist. There are many emotionally disturbed children unable to properly benefit from existing school programs.

If effective health supervision is provided these children during the years before entering school, it would help to prepare them for school and reduce the need for school health services for children in their first year of school.

Supervision of the child's health should be continued through adolescence. Since the adolescent has many problems that are not receiving attention, an important component of any comprehensive program would be the inclusion of clinics, staffed by physicians trained in the management of adolescents.

In many school health programs, the availability of community resources to which children can be referred for diagnosis and treatment is a critical factor in the essential follow-up services. Without such resources school health services have little meaning for low-income families. This has resulted in decreased interest and activity in school health programs in many communities without adequate resources to which these children could be referred for diagnosis and treatment.

These projects may be developed to provide for case finding, preventive and treatment services. The case finding aspects of the program would be directed to all children of this age group regardless of socioeconomic level within the project area, but diagnostic and treatment services would be available only for the low-income families unable to obtain adequate care through other means. An important aspect in any program will be the coordination and full utilization of all available local community resources.

At the present time projects are being developed in the five areas in and around Charlottesville, Richmond, Danville, Virginia Beach, Fauquier and Loudoun Counties. These programs will utilize master clinics and satellite clinics staffed by well-qualified physicians who will provide the necessary diagnostic and therapeutic care. A major purpose of these projects is to develop the necessary skills and experience in providing these services. Other areas throughout the State will be able to draw upon the knowledge gained so as to develop similar programs thus making available these services to all eligible children throughout the State. The program also will provide necessary hospitalization in any area hospital meeting projects standards.

Under the terms of project grants only children residing within the project areas, with a few minor exceptions, can be included in the programs.

Monthly Report of Bureau of Communicable Disease Control

	Feb. 1966	Feb. 1965	Jan.-Feb. 1966	Jan.-Feb. 1965
Brucellosis	1	1	2	1
Diphtheria	0	0	0	0
Hepatitis	70	44	117	108
Measles	263	565	407	1344
Meningococcal Meningitis	10	9	14	16
Meningitis (Aseptic)	0	1	0	2
Poliomyelitis	0	0	0	0
Rabies (In animals)	38	57	59	103
Rocky Mt. Spotted Fever	0	0	1	1
Streptococcal Infections	1184	1069	2163	2475
Tularemia	0	0	2	3
Typhoid Fever	4	1	4	1

Mental Health . . . .

GAIL DEARING

89th Congress Passes 11 Bills Affecting Psychiatric Programs

The first session of the much-heralded 89th Congress, which enacted upwards of 450 pieces of legislation from among 16,882 which it considered, passed several measures that affect psychiatry either directly or indirectly. They cover the psychiatric waterfront from prevention to manpower to direct services for the mentally ill.

• *The Mental Retardation Facilities and Mental Health Centers Construction Act Amendments* provide financial assistance toward meeting the cost of technical and professional personnel serving both in new community mental health centers and in new services added to existing facilities. Preliminary planning for the centers program indicated that many communities would be unable to establish centers without payroll assistance during their early years of operation. The assistance applies for the first 51 months of operation and declines from a high of 75 per cent in the first 15 months to a low of 30 per cent in the final year.

This legislation also expands and extends the existing program of financial aid for training teachers of handicapped children, including retarded and emotionally disturbed, and for research and demonstrations to improve methods and techniques for educating handicapped children.

• *The Social Security Act Amendments (Medicare)* represent the largest federal dollar involvement ever in direct treatment of the mentally ill—$192 million per year. Hospital insurance benefits for the aged provide the same coverage for mental illness as for physical illness, except that care in psychiatric hospitals cannot exceed 190 days in a patient's lifetime. Also, nursing home care and home services are not covered if the facilities or agencies involved are operated primarily to care for the mentally ill. Outpatient diagnostic services are the same as for physical illness. The Supplementary Insurance Benefits cover outpatient treatment by psychiatrists and home health services from any agency, with an annual limit of $250 or 50 per cent of expenses, whichever is smaller.

In addition, the legislation removes the long-standing exclusion of the indigent aged person from receiving public assistance while he is being treated in a public mental hospital. The Kerr-Mills program was expanded to include the indigent mentally ill aged under state medical assistance programs.

Also of major significance for the mental health field is the Act's authorization of a two-year study of "resources, methods, and practices for diagnosing or preventing mental illness in children and of treating, caring for, and rehabilitating children with emotional illness." The Joint Commission on Mental Health of Children has been created to conduct this survey.

The Act also extends state mental retardation planning programs and authorizes grants to colleges and universities for training professional personnel to care for mentally retarded and handicapped children.

• *The Appalachian Regional Development Act* was designed to help communities in the 11-state Appalachia region in promoting its economic development and to establish a framework for joint federal and state efforts toward attacking common needs on a coordinated regional basis. The Act provides grants for building, equipping, and operating hospitals, including mental hospitals, and regional health centers in several

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

of the isolated and impoverished areas of the region. These facilities will be primarily for outpatients. The legislation specifies that first consideration must be given to the patient's treatment needs, not his ability to pay.

• *The Economic Development Act* aims to create new employment opportunities by developing and expanding new and existing public works and other facilities, including hospitals, health centers, and vocational training and rehabilitation facilities.

• *The Elementary and Secondary Education Act* contains grants for establishing and operating programs to enrich elementary and secondary schools by providing such services as comprehensive guidance and counseling, psychological and social work services, and specialized instruction and equipment for handicapped children.

• *The Health Professions Educational Assistance Amendments* provide funds to improve the educational quality of schools of medicine, student scholarships and loans, and to build teaching facilities.

• *The Vocational Rehabilitation Amendments* improve and expand the program of services of the VRA, setting a goal of 200,000 physically and mentally disabled persons to be rehabilitated annually. (Last year, VRA's programs assisted 130,000 individuals, including 14,000 mentally ill and 7,200 mentally retarded.)

• *The Manpower Act* establishes programs to demonstrate the effectiveness of specialized methods in meeting the manpower, employment, and training problems of worker groups such as the handicapped, including mentally ill and retarded.

• *The Older Americans Act* establishes within the Department of Health, Education, and Welfare and Administration on Aging, which will adminster programs and grants in the field of aging and will provide technical assistance to the states for developing community programs for the aged.

• *The Housing Act* provides grants for youth centers and health stations, and for social services for children and the aged, and contains money for housing for the handicapped, including the mentally ill.

• *Drug Abuse Control Amendments* provide controls over the distribution of barbiturates, amphetamines, and other drugs having a similar effect on the central nervous system.

Narcotics addiction and alcoholism came to the attention of Congress via a myriad of bills, none of which was reported out of committee. Significantly, all approached these problems as medical and public health concerns and acknowledged the need to get to and treat their psychological bases. Each would have established preventive, treatment, and rehabilitative programs.

The narcotics proposals urge that narcotics offenders be sentenced to a treatment facility rather than to prison and call for grants to communities and private organizations to establish treatment and rehabilitation programs.

The alcoholism bills seek to establish a federal commission on alcoholism to carry on research, spread information, and establish and maintain facilities for the "care, custody, control, treatment, employment and rehabilitation of alcoholics." The Act would also make available grants-in-aid to states to establish similar facilities.

(Article in *Psychiatric News*, January 1966.)

Diagnostic Laboratory Medicine . . . .

A Survey of Blood Culture Results at Medical College of Virginia

Blood culture results have been used for over 75 years as an aid in demonstrating bacteremias and septicemia. Although the theory behind this test is simple and straight forward, the practical interpretation of results can be difficult if one is not aware of certain basic principles which must be followed in order to obtain useful information. Of equal importance in establishing the significance of results is knowledge concerning the types and frequency of organisms isolated, at any one institution, as this may be of great aid in separating true septicemia from transient bacteremia or extraneous contamination. It is the purpose of this survey to outline the basic principles of blood culture technique and to report on the number and species of organisms recovered at the Medical College complex with the hope that this background may be helpful in interpreting blood culture reports.

The procedure is initiated by inoculating 10 ml. of blood into a culture bottle containing brain heart infusion agar broth with penicillinase and para-aminobenzoic acid added to inactivate penicillin and sulfa drugs. One side of this bottle is coated with a layer of trypticase soy agar. This permits the growth of bacterial colonies to be easily seen and aids in macroscopic reading of the cultures and eliminates repeated subculture, which minimizes contamination. The blood culture bottle was introduced to the Medical College of Virginia by Dr. Miles Hench in 1950 and has proven very satisfactory in reducing contamination.

The specimens are incubated at 37°C for 15 days unless growth is observed by gross examination earlier than this time. At the end of the 15th day period, the cultures are inoculated onto blood agar plates before being discarded as negative.

Table I shows the results of 2,094 cultures included in this study. Three hundred and thirty-six cultures (16%) were positive. The most commonly isolated organisms were Staphylococcus epidermidis (albus), Corynebacterium species (diphtheroids), Pseudomonas species and Diplococcus pneumoniae. It is of interest to note that Staphylococcus epidermidis and Diphtheroids were rarely isolated more than once from multiple cultures, suggesting these are possible contaminants. Pseudomonas, when present, was always demonstrated in several cultures of the same series. The genus Proteus was isolated from 21 cultures; 12 isolates were P. mirabilis, while the other nine isolates were made up of the other three Proteus species. Mixed infection by two or more bacterial species oc-

TABLE I

SPECIES AND FREQUENCY OF BACTERIA ISOLATED FROM 2,094 BLOOD CULTURES

	No. of Isolates	Percentage of Positive Cultures	No. of Patients Positive	Per Cent of Patients
Staphylococcus epidermidis (albus)	65	19.5	55	24.6
Corynebacterium Sp. (Diphtheroids)	46	13.1	44	19.6
Pseudomonas species	30	9.	15	6.8
Diplococcus pneumoniae	29	8.6	12	5.4
Alpha hemolytic Streptococcus	25	7.4	11	4.9
Escherichia coli	23	6.8	16	7.1
Proteus species	21	6.6	13	5.8
Aerobacter aerogenous	17	5.1	12	5.3
Staphylococcus aureus	17	5.1	12	5.3
Beta hemolytic Streptococcus	17	5.1	5	2.3
Paracolon bacillus	15	4.4	9	4.1
Herella vaginicola	9	2.7	3	1.3
Bacillus species	7	2.1	7	3.3
Salmonella species	4	1.2	3	1.3
Candida species	3	.9	3	1.3
Mimae polymorpha	2	.6	1	.4
Bacteroides species	2	.6	1	.4
Clostridium species	2	.6	1	.4
Neisseria gonorrhoeae	2	.6	1	.4
Total	336	100%	224	100%

curred in 11 patients and in most cases from multiple cultures the same organisms were isolated. The most common combination isolated was Pseudomonas species with another gram negative bacillus, such as a Coliform species. This combination of two species occurred in six of the 11 patients while two individuals had as many as three different species isolated repeatedly from their blood. This demonstrates that more than one species of organism may be present in the blood at a given time. This is a true bacteremia and not representation of contamination. It was not uncommon to isolate organisms which were not generally isolated in bacteremias. Such organisms as Bacteroides, Clostridium and Candida furnished a little over 2% of the total positive cultures. The significance of these organisms in blood can only be ascertained by careful clinical and laboratory investigation, but their presence should not be ignored if they are repeatedly isolated, because under these circumstances the probability of these organisms being contaminants is very low.

It has been suggested that holding blood cultures for 30 days might increase the number of positive cultures. In order to evaluate this procedure 1,000 cultures were held for 30 days. Seventeen additional positive cultures were obtained. Ten cultures showed Diphtheroides, three Staphylococcus epidermidis (albus), three alpha Streptococci and one mold. All of these were single isolates and suggested contamination rather than being organisms related to the patient's illness. On the basis of these results, it was felt that the 15 day holding period was a satisfactory one.

It was disturbing to note that 80 patients (40%) had only one blood culture drawn and that many others had multiple cultures of up to 16 drawn in a relatively short period of time. The interpretation of positive results from a single blood specimen is difficult, if not impossible, because of the many variables which might contribute to a positive culture. This is especially true when the blood culture yields such organisms as Staphylococcus epidermidis or Corynebacterium species for these organisms are quite commonly considered skin saprophytes which on occasion may be pathogenic giving rise to bacterial endocarditis or other serious infections. One way the laboratory can aid in the above interpretation is by examining multiple cultures. If the questionable organism is isolated repeatedly from multiple cultures, this is evidence of an active infection by this organism. While it is recognized that there is no magic number of blood cultures to be drawn, it is suggested that at least three and possibly five cultures should be drawn to obtain an adequate laboratory evaluation of bacteremia.

The isolation of a large number of gram negative organisms was anticipated but it was surprising to find that these organisms were the most common isolate. The reason for this relatively large number might be explained by the presence of an active burn unit at the Medical College, but many cultures were from other medical services as well. It is apparent from the data that gram negative bacteremia occurs to a much greater extent than the classical organism associated with hospital sepsis and bacteremia-Staphylococcus aureus. That these organisms have become a problem in hospital sepsis is already noted in the literature. The above observation merely emphasizes this fact.

The speciation of the Proteus genus is of value because it points to the fact that a great majority of Proteus isolated from blood are of the species mirabilis. This fact has practical application since this organism is the most susceptible of the genus to antibiotics.

In summary, it is unwise to regard the finding of uncommon organisms in blood as simply representing contamination or incidental transient bacteremia for many of these organisms have been proven to be the causative agent of bacterial endocarditis

and meningitides. The wide spectrum of organism isolated in this small study points to the necessity of clinical and laboratory evaluation of all positive results not only to establish the etiology of the infection, but more importantly to establish the most efficient chemotherapeutic treatment as soon as possible.

H. P. Dalton, Ph.D.
M. J. Allison, Ph.D.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia

Sunscreen Mixture Doesn't Wash Off

A sunscreen lotion that doesn't wash off could be a result of research reported in J.A.M.A., of February 14th. The material gives sunlight protection that cannot be removed by sweating, swimming, or rubbing.

Physicians at the University of Michigan Hospital who tested the mixture say treated areas of skin in many cases resisted sunburn three times longer than untreated areas on the same persons. Of 18 persons tested, all were able to remain at least an hour in strong summer sunlight without noticeable reddening.

The mixture does not give immediate protection. It must be applied at least 12 hours before going into the sun. Persons with rashes, sores, or other forms of dermatitis cannot use the lotion.

This method for altering the built-in light filter of the skin was first reported in 1962 by two of the four physicians making this report.

The two chemicals used are dihydroxyacetone (DHA) and naphthoquinone (lawsone). Mixed with water and isopropyl alcohol, the chemicals were applied to abdominal skin of the test volunteers. In every case, their skin had been unexposed or minimally exposed to sunlight during the previous nine months.

The volunteers applied the mixture 14 to 18 hours before entering sunlight, and washed with soap and water four hours before sunbathing. Their median reaction time—the time required to produce some skin reddening—was 33 minutes for untreated skin areas and 102 minutes for treated skin. All 18 volunteers showed reactions on unprotected skin after 60 minutes in the sunlight, but none on the protected areas.

Another mixture, using increased amounts of lawsone, was tested on four volunteers. These persons were able to tolerate up to four hours of sunlight without reddening. Additional tests showed that more protection was given with greater amounts of the mixture and more frequent application.

Still to be perfected is a way to keep the chemical stable when mixed and stored at room temperature.

Authors of the research report are Ramon S. Fusaro, M.D., Walter J. Runge, M.D., Francis W. Lynch, M.D., and C. J. Watson, M.D., all of the University of Minnesota Hospital, Minneapolis. The report appeared in the January issue of the Archives of Dermatology, published by the AMA.

Current Currents

SUPREME COURT: The United States Supreme Court has decided to hear the case in which the drug industry is contesting the right of the Food and Drug Administration to require use of the generic name every time a drug's brand name is used in labeling, promotion and advertising.

HEALTH MESSAGE: President Johnson's recent health message to the Congress, although filled with general recommendations, contained some specific reference to legislation which he believes should be enacted. Among other proposals, Mr. Johnson asked for legislation which would: (1) Improve the personnel system of the Public Health Service in such manner as to promote career development and stimulate high standards of performance; (2) provide a program of grants for states and communities to plan better use of manpower, facilities and financial resources for comprehensive health services; (3) provide a program which would initiate new state formula grants for comprehensive public health service which would replace present categorical grants; (4) authorize a program of grants to states, communities, medical schools and hospitals to meet special health problems; (5) amend the Hill-Burton Act to provide a loan and grant program to assist in the long-term financing of hospital renewal projects; (6) provide for the payment of services to patients in federal hospitals; (7) create a three year program of grants to provide training in allied health professions and construct needed facilities; (8) provide a program mortgage guarantee insurance for group practice facilities; and (9) amend the Health Professions Educational Assistance Act to replace direct federal loans to students with a privately financed federal loan guarantee program.

The President also instructed the Secretary of HEW to appoint an Advisory Committee on Alcoholism and to establish in the Public Health Service a center for research on alcohol.

PREVENTICARE: Representative John E. Fogarty (D., R.I.) has introduced H.R. 12976—the Adult Health Protection Act of 1966. This bill would authorize the Surgeon General to make grants to medical schools, community hospitals, health departments, and other non-profit health agencies to establish adult protection centers. Health appraisal and disease detection services would be provided, on a periodic basis, to any adult age 50 or older who resides within the geographic area served by the center. In effect, this program would create a nationwide federally supported, multiple screening program. Results of the tests would be forwarded to the individual's attending physician. The program would be authorized by five years and would be financed from the general revenue.

FEDERAL EMPLOYEES: The new federal budget calls for 204,000 additional federal employees. HEW will receive 18,000, bringing its total to 99,000 employees.

AMA-ERF: From time to time, your editors like to call attention to the fine job being done by AMA-ERF. This young Foundation has much to be proud of, and a glance at its record tells us why. In its brief history, AMA-ERF has:

Transmitted more than $1 million a year from physicians and their wives in unrestricted funds to medical schools;

Guided more than $3 million from physicians and industry into $30 million in loans for medical students, interns and residents;

Created the mechanism that channels funds into research on smoking and health;

Supported the Summer Institute for Medical Journalism which aims at increasing the writing and editing abilities of young physicians;

Established a program in bequests to medical research—a service to bankers and lawyers in guiding their clients' bequests;

Set up the mechanism to accept small contributions for research that by themselves would purchase little, but which when pooled become capable of sponsoring research projects, and

In the last year has built and opened the Institute for Biomedical Research—and exciting venture in basic biomedical research.

LOAN PROGRAM INTEREST RATES: The Federal Reserve Board's action to raise the bank discount rate several months ago, has been followed by a change in the "prime interest rate". The prime rate, that which lending banks apply to large, short-term, well secured loans, has now increased from 4½% to 5%.

The agreement between the American Medical Association Education and Research Foundation and the banks participating in its Loan Guarantee Program stipulates that the *interim interest rate* shall be one percentage point greater than the prime rate and that the *payout rate* shall be two percentage points greater than the prime rate. The agreement further specifies that a change in interest rates, if required, shall become effective on April 1, of any given year.

Consequently, beginning April 1, 1966, the interim and payout rates for all new AMA-ERF loans became 6% and 7% respectively. This increase in rates, the first which has occurred since the program began in March 1962, will not be retroactive and will not affect either the interim or payout rates provided for in interim notes received by the banks prior to April 1, 1966.

DID YOU KNOW? Poets John Keats, author of "Ode to a Grecian Urn", and Samuel Taylor Coleridge, who wrote "The Ancient Mariner", were physicians.

Woman's Auxiliary . . . .

*President*_____Mrs. George W. Kelly, Jr., Pulaski
*President-Elect*_____Mrs. Ralph Landes, Danville
*First Vice-President*_Mrs. William Reardon, Falls Church
Second Vice-President ___ Mrs. J. R. McGriff, Arlington
*Third Vice-President*____Mrs. Walter Eskridge, Parksley
*Recording Secretary*___Mrs. Harold Goodman, Richmond
Corresponding Secretary Mrs. A. B. Gravatt, Kilmarnock
*Treasurer*_____Mrs. Robert Mitchell, Falls Church
*Parliamentarian*__Mrs. T. N. Hunnicutt, Newport News
*Historian*_____Mrs. W. Fred Delp, Roanoke
*Publicity*_____Mrs. Daniel Anderson, Norfolk

IN MEMORIAM



Alice Hechler Liggan

We, the past presidents of the Woman's Auxiliary to The Medical Society of Virginia, wish to pay tribute to the memory of a beloved member, Alice Hechler Liggan, widow of Dr. Lee S. Liggan, who went to be with her Lord on July 25, 1965.

Alice always gave generously of her time, talent and substance to help carry on the work of both her county and state medical auxiliaries. She served on many committees and held several offices before becoming president of the Woman's Auxiliary to The Medical Society of Virginia in 1956.

Realizing the financial needs of some students in medical fields, she began the Student Loan Fund during her year as president of the auxiliary. The auxiliary in convention on October 11, 1965, renamed this fund in her memory the Alice H. Liggan Loan Fund.

Alice was active in civic and church work in her community. She was a past president and life member of the Woman's Society of Christian Service of the Irvington Methodist Church and a member of the official board of that church. She was Worthy Grand Matron of the Grand Chapter of Virginia, Order of the Eastern Star in 1951-52. She had served as president of the Woman's Club of Lancaster County. She was instrumental in the founding of the Northern Neck Theatre Guild and starred in its first play, "The Curious Savage".

Alice's interests were many and diversified and through them all her Christian spirit shone. Her devotion and dedication to her doctor, her family, and the medical profession was an inspiration to all who were privileged to know her.

Therefore, be it resolved:

1. That by this memorial we express our appreciation for the life and character of Alice Liggan, and,
2. That this auxiliary has sustained an irreparable loss of leadership and example of devotion to duty, and
3. That her memory will ever live in the records of this auxiliary and in the hearts of those whose lives she touched, and,
4. That this resolution be spread upon the records of the Woman's Auxiliary to The Medical Society of Virginia, the past presidents' book, and the Virginia Medical Monthly, and,
5. That a copy suitably inscribed and signed be sent to the members of her family.

Mrs. A. Broaddus Gravatt, Jr.
Mrs. John R. St. George
Mrs. Paul Pearson

Alice H. Liggan Student Loan Fund

The Auxiliary, in convention in October of 1965, unanimously passed a motion renaming its Student Loan Fund the Alice H. Liggan Student Loan Fund. Thus they paid tribute to and perpetuated the name of their twenty-ninth president, who had instigated the establishment of this fund and had served as its chairman until her death. The Student Loan Fund was established in 1957 to assist a student in any branch of medicine, i.e medicine, pharmacy, nursing, medical technology, physical therapy, etc. A small rate of interest will be charged to start after graduation or completion of training and when the student is making his own money.

Loan Fund Regulations:

1. Contributions to this fund will be sent to the chairman who will record same for her records and then transmit them to the state treasurer.
2. The rate of interest shall be 2½%.
3. Application blanks will be used. These blanks will be filled out in triplicate, one to be kept in the file of the chairman of the Student Loan Fund, one to be kept by the state treasurer, and one by the student. The blanks will have only the necessary information, i.e. name of student, name of school, amount borrowed, date borrowed, and a space to be filled in later with the date the student begins to earn an income, since the interest will not start until this date.
4. The student will be recommended by either one person or an auxiliary. This does not mean the sponsor is responsible for the money the student borrows, but only that the auxiliary or person feels that the student is deserving.
5. Applications for loans will be decided on by the Student Loan Committee; thus, only this committee consisting of the chairman and two members, the state treasurer and president will know the name of an applicant.
6. Application blanks may be secured from the chairman of the Student Loan committee.
7. The loan will be limited to the normal number of years that is required for the graduation of the student.
8. Virginia students who attend any approved school of their choice may benefit from the Student Loan Fund as long as they are sponsored by a Virginia auxiliary or an individual auxiliary member.

Chairman of Loan Fund Reports

Loans have been made to four different girls: two in 1962 of $200.00 each, one in 1963 of $300.00 and one in 1963 of $100.00 to one of those who received $200.00 in 1962. The latest was December 24, 1965, to a freshman nursing student at MCV for $200.00. She was recommended by the Wise County Auxiliary. This fund is publicized only through the auxiliary and auxiliary members. We are still able to make small loans, but also still need the continued support of the county auxiliaries. Five auxiliaries have already responded to my letter and I really expect 100% contributing before the year is out.

Please remember that an individual, as well as a local auxiliary, may make a recommendation for a recipient. Feel free to ask your state chairman for application blanks or for any further information.

Mrs. A. B. Gravatt, Jr.
Chairman, Liggan Loan Fund

Make Time for Safety

A message from your Safety Chairman:

Please find a place for some phase of Safety in your program planning this year!

I have collected all the "free" printings on Safety that I can through the cooperation of the Governor's Highway Safety Committee and the American Red Cross and am mailing them to each Auxiliary Safety Chairman or President.

The Director of the Women's Division of the National Safety Council wrote that

in Virginia there are two cooperating agencies which have all the visuals, i.e. films, flannel board, flip-charts, magnetic cars, instructor's manual and various leaflets plus instructors to give the course if any group is interested in putting on the Driver Improvement Program. There is a charge per person for this program. The agencies are the Hopewell Safety Council at 3200 Western Street, Hopewell, and the Roanoke Valley Safety Council at 603 First Federal Building, Roanoke.

If you are interested in sponsoring a community-wide Safety program, the following kits of basic material are available at $1.50 for one from the National Safety Council: Home Safety; Home Child-Care Safety; Home Fire Safety; Safety of the Elderly; Baby Sitter Safety; Poison Prevention.

The Governor's Highway Safety Committee has a very nice traffic safety film library. The films are loaned to organizations and individuals free of charge, with several requests which the borrower is asked to observe. I have their catalog also and shall be happy to help you secure a film.

The American Red Cross has a water safety program which your Auxiliary might wish to sponsor.

Five minutes at a meeting devoted to thought about any form of safety is five minutes well spent. To make a few suggestions: Traffic Safety (in any of its many facets); Home Safety; Water and Small Craft Safety; Safety for the Elderly; Safety for Children (at home—on the playground —in traffic—in or on water—with toys).

Please let me know if I can assist you in planning your Safety Programs—but please plan one!

Mrs. Girard V. Thompson,
State Safety Chairman
Chatham, Virginia

Ideas Around the Old Dominion

Danville-Pittsylvania

Mrs. John J. Neal, Jr. reports a unique idea in programs for this year. They are utilizing the talents and interests of their doctors as expressed in fields other than medicine. A recent program, presented by a local physician, was slides on his year in Viet Nam, and another time a physician presented a paper on a 16th century urologist. They have plans for a Moorish Art enthusiast to speak.

The projects of this group include Future Nurse Club in the High School, entertainment and aid to student nurses and to provide a nursing scholarship.

Federal Income Tax

This is the month when every wage earning person and organization must file a return. Contact your local Internal Revenue Service for information and forms necessary to establish your organization as a philanthropic, tax exempt organization. Several local auxiliaries are under investigation for back taxes at the present time because they had not previously established this status.

Editorial . . . .

? A Dangerous Business ?

"The practice of medicine is an art,
not a trade; a calling, not a business".—OSLER

IT HAS BEEN OBSERVED that aside from executioners, duly designated by law, doctors of medicine constitute the only profession on earth whose members are licensed to kill people. This, at first blush, may seem to be a rather callous and dogmatic view. Nevertheless its validity will be realized if one considers the difference between a doctor's running over a human being with his car and losing the life of a patient on his operating table. In neither instance, of course, would the act have been intentional, but in the first case he would be subject to trial under the law of the land, if negligence, recklessness or dereliction had been apparent, while in the second case he would generally be obligated to do nothing more than sign a death certificate.

It is only when the awesomeness attendant upon one's license to practice medicine is so considered that the weightiness of this license—the confidence imposed in the integrity of the doctor—comes into clear focus. Doctors of medicine, regardless of whatever their specialty field may be, should ever be conscious of the lofty trust with which they are vested and of their obligation not in any manner to betray that trust. Most doctors are, beyond question, so conscious.

Thus, one aspect of a pact so profound as to be virtually sacred may be regarded. Another aspect—and in fact the only other aspect—is inherent in the obligation of patients to their doctors.

This is something that, particularly during the past two decades, appears to have undergone a more or less progressive deterioration. As a result of this deterioration doctors have become correspondingly more wary of rendering professional services. They are forever faced with the possibility of a lawsuit, and whether they have been in the least guilty of dereliction or failure to follow strictly the most conventional procedures in the care of a patient, the outcome of such a suit can be catastrophic, not only to the doctor but to his entire family. Unless covered by insurance, he may be utterly ruined financially by the necessity of having to absolve himself of any blame. Therefore, in winning, he at the same time, may lose, and lose heavily.

It requires the mastery of an innate and deeply seated inhibition for a doctor to ignore human beings he sees lying and dying along a highway and drive blythely past the scene of a traffic accident; yet he is warned,

through numerous sources of information, of the risk inherent in his stopping and offering whatever assistance he might be able to render. (Despite this warning, the author of this editorial has, upon at least two occasions, been instrumental in saving the lives of two young men. One was unconscious on the floor of a car he had driven off the highway into a creek, swollen by heavy rain and melting snow, and within a few minutes would have drowned in the water welling up over his head. The other was near death, also in a creek, not from drowning but by reason of his having sustained a crushed chest between the steering wheel post of his car and the driver's seat.) Similarly, when a doctor administers an anticonvulsant to a woman about to die of eclampsia, and saves her life but delivers a baby so narcotized as to inhibit the establishment of natural respiration, the doctor is not unlikely to be sued. If he orders penicillin in the treatment of a septic tonsillitis and an allergic reaction results, a lawsuit may be no surprise to him. If he prescribes a conservative number of sleeping pills for a distraught or emotionally disturbed individual and, instead of following the doctor's instructions which are plainly printed on the label of the container, the patient, as a deliberate suicidal act, elects of his or her own volition to take all of the pills at one time, possibly plus an additional number held over from a previous prescription, or snitched from one extraneous source or another, the doctor may be held culpable for aiding and abetting the aims of such a patient by not having refused to prescribe sleeping pills. Other counts upon which doctors may be held to have "stuck their necks out" are various and too numerous to recount here.

During recent years the American Medical Association has published reports of several surveys bearing upon the law of medical practice, professional liability involving physicians, a brochure entitled, "Professional Liability and the Physician", and 131 questions and answers pertaining to professional liability. The latest such survey appears to have been one published in 1963, and its findings are compared with those of a somewhat similar survey conducted in 1956.

Quite a melange of statistics are set forth in these several survey reports. That statistics may serve to support nearly anything, but particularly statisticians, has become something of a cliché. The statistical reports apropos lawsuits against physicians constitute no exception. In any event, this much can be stated categorically: The 1963 survey revealed that about one out of every six physicians (17.8%) in active practice in the United States had had at least one liability claim made against him during his lifetime. When the total number of physicians, on a nation wide basis, was weighed by population, the rate of claims was shown to have increased to 18.6%. This rate was one-third greater than that reported in 1956.

Similarly as articles beamed at informing the public of ways and means of slicing income tax returns as thinly as possible, articles reminding the public of lawsuit potentialities against doctors, and also of reminding

doctors of their vulnerability under certain circumstances, have become increasingly common in lay publications—but with one glaring difference: The tax dodging articles appear virtually exclusively between January 1 and April 15 of a given year, while the doctor-lawsuit "song and dance" goes on with more or less uniformity around the calendar.

Of practical importance to the public should be the realization that one—and a major necessity—for what to some may appear to be exhorbitant charges on the part of doctors for services rendered, may be accountable in terms of the high cost liability insurance a doctor must carry, to the end of protecting himself and his family against the financial ruin that could result from a lawsuit by a perhaps unscrupulous patient.

For the purpose of this commentary, may it suffice to say that it would appear most timely and highly in order for a sense of consciousness, through as many media as can be utilized, to be instilled into the minds of people that it is as much incumbent upon them to observe an attitude of loyalty toward, and a duty to protect their doctor as it is incumbent upon their doctor to remain faithful to and to protect them. This needs to be done lest the practice of medicine, instead of remaining, as averred by Doctor Osler, "an art, not a trade; a calling, not a business; a calling in which the doctor's heart would be exercised equally with his head," be distorted into a business in which the doctor perforce must exercise his head rather than his heart—into an exceedingly dangerous business, indeed—by people in the interest of whom doctors have done so much, and to whom they have every desire to remain dedicated to an endless and faithful endeavor toward making growth more perfect, life more vigorous, decay less rapid and death more remote.

Let the public be reminded that, in most instances, suing a doctor who has done his best to be of service to a human being and to humanity in general is equivalent to emulating the "Cur in the Story" that bites the hand intent upon feeding him.

H. Lamont Pugh, M.D.

News . . . .

Calendar of Events

Carolinas-Virginia Hospital Conference—Hotel Roanoke, Roanoke—April 14-15, 1966.

AMA Legal Conference—Hotel Continental, Chicago, Illinois—April 14-16, 1966.

Virginia Society of Anesthesiologists—3rd Annual Spring Meeting, Sheraton Motor Inn, Richmond—April 16-17, 1966.

American College of Physicians—Annual Meeting—Americana Hotel, New York, New York—April 18-22, 1966.

American Academy of Pediatrics—Spring Session—Queen Elizabeth Hotel, Montreal, Canada—April 25-27, 1966.

Virginia Society of Ophthalmology and Otolaryngology—Annual Meeting—Charlottesville—April 28-30, 1966.

Virginia Public Health Conference—Hotel Roanoke—Roanoke—May 3-6, 1966.

Anesthesiology Residents' Conference—Regional Meeting—University of Virginia—Charlottesville—May 7-8, 1966.

Virginia Academy of General Practice—16th Annual Scientific Assembly—Hotel Roanoke, Roanoke—May 12-15, 1966.

Tennessee Heart Association—Scientific Session—Gatlinburg, Tennessee—May 19-21, 1966.

Virginia Heart Association—Annual Meeting—Natural Bridge—May 20-21, 1966.

AMPAC National Workshop—Sheraton Park Hotel, Washington, D. C.—May 21-22, 1966.

Medical College of Virginia Alumni Association—Annual Meeting—Hotel John Marshall, Richmond—June 4-5, 1966.

Symposium on Recreation for the Handicapped Child—Children's Rehabilitation Center—Charlottesville—June 22-24, 1966.

American Medical Association—Annual Convention—Chicago, Illinois—June 26-30, 1966.

7th Annual Symposium on Clinical Aspects of Renal Disease—Ischemic Heart Disease and Cardiac Diagnosis—Sponsored by Tidewater Heart Association & Council on Clinical Cardiology, American Heart Association—Cavalier Hotel, Virginia Beach—June 30-July 2, 1966.

Virginia Medical Service Association—Annual Meeting—Williamsburg—July 15, 1966.

Virginia Council on Health and Medical Care—Health Executives Workshop—Natural Bridge—August 17-19, 1966.

6th Annual Charlotte Postgraduate Seminar—Presbyterian Hospital Auditorium—Charlotte, N. C.—September 21-22, 1966.

Pediatric Post-Graduate Conference on Pediatric Cardiology—University of Virginia School of Medicine—Charlottesville—October 6-8, 1966.

The Medical Society of Virginia—Annual Meeting—Williamsburg—November 6-9, 1966.

New Members.

The following doctors were admitted into The Medical Society of Virginia during the month of February:

Samuel Kermit Ashby, M.D., Newport News
William Roseboro Beach, M.D., Newport News
Walton McNeil Belle, M.D., Richmond
Lowerance Daniel Burtner, M.D., Harrisonburg
Jacques Politi, M.D., Colonial Heights
John Philip Utz, M.D., Richmond

Wise County Medical Society.

At a meeting of this Society on February 9th, Dr. D. B. Jones was elected president, succeeding Dr. L. K. Ingram. Drs. J. T. Phillips, Fred Maphis and William H. Mathews, are vice-presidents; and Dr. Joseph M. Straughan, secretary-treasurer.

Virginia Pediatric Society.

At the annual meeting of this Society held in Williamsburg in February, Dr. William P. Spencer, Richmond, was elected president; Dr. Harrison C. Spencer, Abingdon, vice-president; and Dr. William D. Liddle, Jr., Fredericksburg, secretary-treasurer.

Virginia Society of Internal Medicine.

Dr. James B. Twyman, Charlottesville, was installed as president of this society at a meeting in Richmond in February. Dr. John Hortenstine, Winchester, was named president-elect; Dr. Thomas L. Gorsch, Waynesboro, vice-president; and Dr. R. Bryan Grinnan, Norfolk, secretary-treasurer.

The Virginia Diabetes Association

Will hold its annual scientific program in Roanoke on May 12th, under the presidency of Dr. L. Benjamin Sheppard, Richmond. There will be a panel on Diabetic Acidosis, with Dr. Nuzhet O. Atuk, Charlottesville, speaking on Hypernatremic Diabetic Coma and Drs. St. George Tucker and John A. Owen, Jr., Richmond, on Fluid and Electrolyte Therapy in Diabetic Acidosis. A Symposium on Diabetes and Pregnancy will be participated in by Drs. Max Miller, Western Reserve University, Cleveland; Edward J. Connor, Georgetown University, Washington; and R. B. Young, Medical College of Virginia. They will also conduct a panel discussion on this subject, which will be moderated by Dr. William R. Jordan, Richmond.

Dr. Max E. Lassiter,

Danville, has been selected for inclusion in the 1966 edition of "Outstanding Young Men of America". He is a former winner of the Distinguished Service Award presented annually by the Jaycees.

Dr. Elizabeth Cocke Cole

Has begun a three-year term of medical service in Southern India. She will work in a rural community in Andra Pradesh state under the sponsorship of World Neighbors. Dr. Cole worked in India in 1958-59 under the auspices of the American Friends Service Committee and served in Malaya with the Peace Corps in 1963-64. She was in general practice in Norfolk for twenty-two years and for the past year has been in practice at Claremont.

Dr. Werner Gergen

Has been installed as president of the Front Royal Kiwanis Club.

Lewis K. Martin,

A junior at the University of Virginia School of Medicine, has been awarded a fellowship which will enable him to assist for fourteen weeks this summer at a mission hospital in East Africa. He is one of thirty-five American medical students selected to receive Smith Kline & French Foreign Fel-

lowships from the Association of American Medical Colleges. Mr. Martin's home is in Roanoke.

Dr. Nari P. Vaswani

Has resigned as clinical director of psychiatric services at Central State Hospital, Petersburg, and has joined part-time staff at Fairfax-Falls Mental Health Center. He will make his home in Vienna where he will also do private practice in psychiatry.

RADMA Clinic Available to State Presidents.

The RADMA (Richmond Area Demonstration for the Management of Arthritis) now accepts any State resident who is referred by a physician and who is able to attend the clinic three times weekly for a two to three month period. Treatment consists of medical evaluation and care, physical and occupational therapy, social service guidance, and all consultation where indicated. Fees are based on the patient's ability to pay, since RADMA is funded both by the United States Public Health Service and the United Givers Fund. Referral information will be discussed and/or accepted by the Richmond Area Arthritis Foundation at 2501 Monument Avenue, or by phone 358-9471.

For Sale

Excellent, high class, well established practice in Internal Medicine, in Arlington, Virginia. Retiring from active practice, moving out of town. Well equipped office in large medical building. Will transfer telephone number and patient records to new owner. Wonderful opportunity for starting internist. Write #75, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Urologist

For specialty group in California. Write #65, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Pediatrician Wanted.

Under 35. For 20 partner Southern California specialty group. Partnership potential after first year. Administrator, Gallatin Medical Group, 10720 South Paramount, Downey, California. (*Adv.*)

Obituary . . . .

Dr. Robert Preston Hawkins, Jr.,

Clifton Forge, died February 27th, at the age of seventy-one. He was a graduate of the Medical College of Virginia in 1923. Dr. Hawkins had been on the surgical staff of the C. & O. Hospital for more than forty years. He was associate chief in surgery and chief of orthopedics at the hospital and was a past president of the C. & O. Railway Surgeons Association. For many years Dr. Hawkins served on the Clifton Forge school board and several times was its chairman. He also served for many years as secretary of the Alleghany-Bath County Medical Society. He had been a member of The Medical Society of Virginia for forty-one years.

His wife, a son and a daughter survive him.

Dr. Francis Randolph Crawford,

Farmville, died March 3rd. He was eighty-one years of age and received his medical degree from Johns Hopkins University in 1911. Dr. Crawford was a former medical missionary to China. He was a past president and past campaign chairman of the Prince Edward County Community Chest and a past president of the Farmville

Lions Club. Dr. Crawford has been a member of The Medical Society of Virginia since 1928.

His wife and two sisters survive him.

Dr. Charles Thomas Carter,

Danville's oldest practicing physician, died February 19th, after a brief illness. He was ninety years of age and graduated from the former University College of Medicine in 1897. Dr. Carter had practiced in Danville since his graduation. He had been a member of The Medical Society of Virginia for sixty-eight years.

His wife survives him.

Dr. Margaret Nolting,

Richmond, died February 11th, at the age of eighty-three. She graduated from the Medical College of Virginia in 1922. Dr. Nolting was a member of the staff of St. Luke's Hospital. She had been a member of The Medical Society of Virginia for thirty-three years.

A sister survives her.

Dr. E. Latane Flanagan

Died October 28, 1965, at the age of eighty-three years.

If we had to describe Dr. Flanagan in one word, it would be "independent". He carefully avoided close affiliation with any hospital, clinic, or group of physicians, other than his colleagues in the Caduceus Club and the Medical Arts Building Corporation, both of which he was a charter member. Perhaps it was his Irish ancestry, perhaps it was the responsibility suddenly thrown upon him as a result of the premature death of his father. In any event, he personified the self-sufficient individualism characteristic of pioneer Americans.

He was born August 6, 1882, in the home of his grandparents in Amelia County, Virginia. He was the oldest of ten children, all reared in Powhatan. There were nine boys and one girl. The baseball team founded by the Flanagan brothers was famous in Powhatan County after the turn of the century.

He attended public schools in Powhatan and Charlottesville, Virginia, and entered Randolph-Macon College in 1901. He was sixteen when his father died, and was forced to leave college, in 1903, to aid in the finances of the family. As the eldest son, he assumed much of the responsibility for the education of his sister and brothers, three of whom became lawyers.

Dr. Flanagan entered the Medical Department of the University College of Medicine in 1905, at the height of the rivalry between this school and the Medical College of Virginia. His medical education was interrupted on several occasions because of illness and financial needs. He worked for the Railway Mail Service several years, and finally graduated in Medicine in 1914, two years after the rival schools had amalgamated. As an old University College man he found it difficult to admit that he graduated from the Medical College of Virginia.

Upon graduation, Dr. Flanagan entered public health work in Greenville and Fairfax Counties. He was an early worker for the control of hookworm disease and established the first dental clinic for school children in the State.

During the first World War, he served in New York and Tennessee, and at Camp Travis, Texas, where he was Assistant Camp Surgeon. In 1920, he decided on a career in Roentgenology and, after postgraduate study in New York, he opened his office in the Medical Arts Building, where he practiced his specialty for over forty years.

His professional medical societies represented the Richmond Academy of Medicine, The Medical Society of Virginia, Southern Medical Association, American Medical Association, Radiological Society of North America, and a Fellow of American College of Radiology.

He was a Methodist and served as an honorary steward at Centenary Methodist Church, Richmond.

His hobby was genealogy; favorite recreation, fishing; chief sport, baseball.

Dr. Flanagan is survived by his wife, a daughter, a son, and several grandchildren.

THEREFORE BE IT RESOLVED that a copy of these resolutions be entered in the Minutes of the Richmond Academy of Medicine, and a copy to be sent to his wife.

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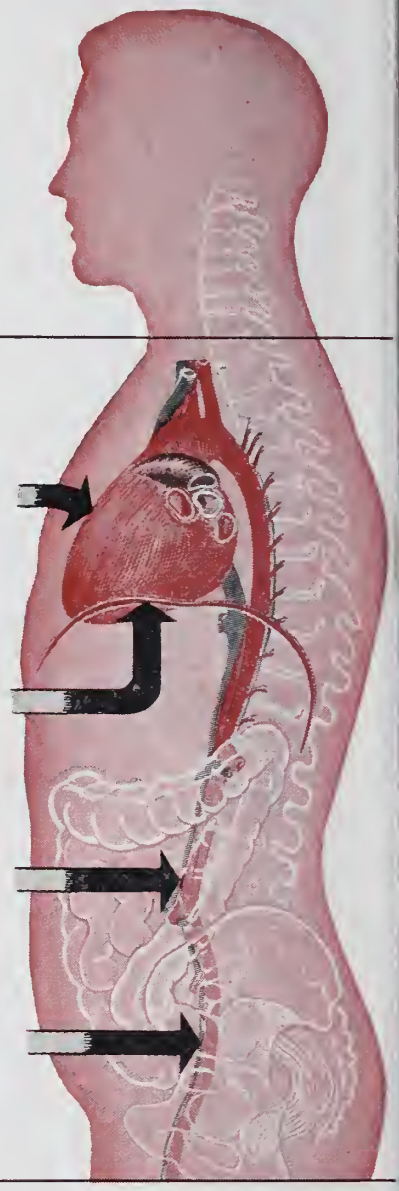
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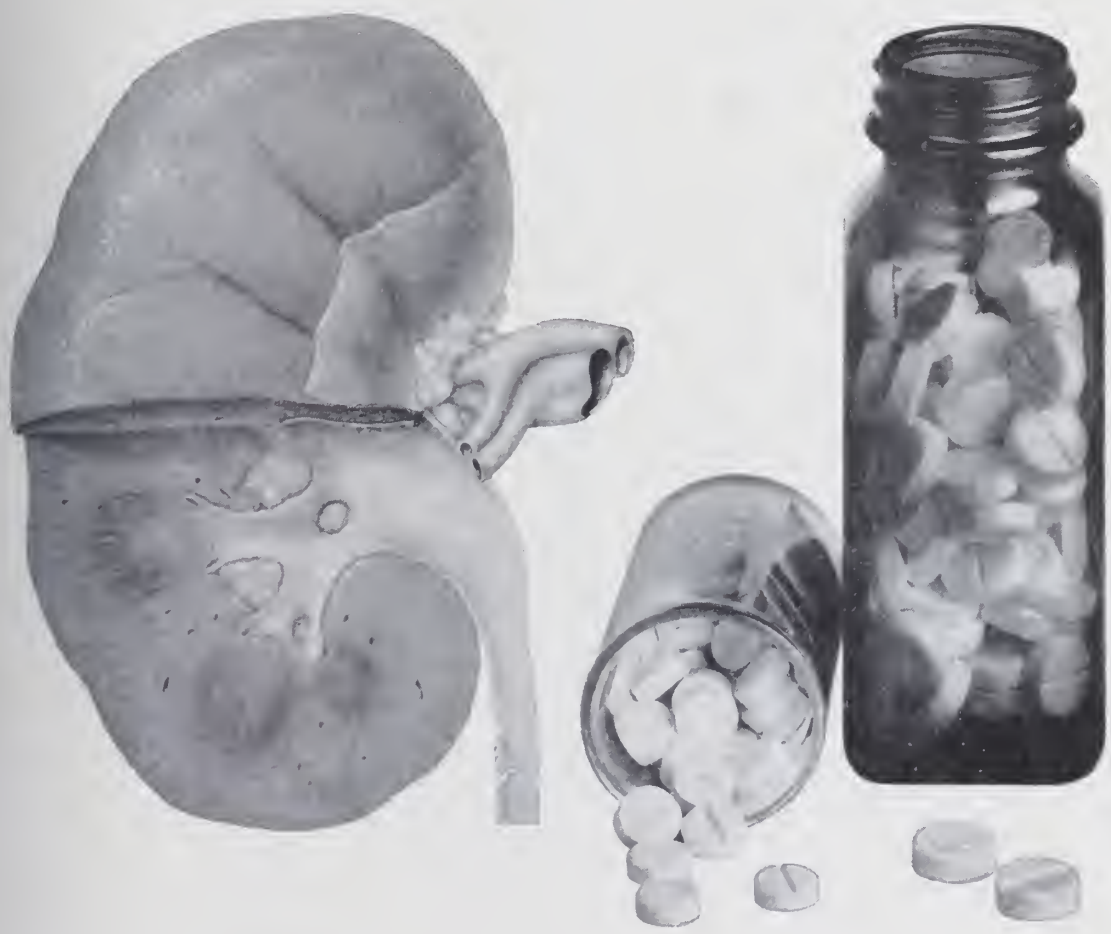


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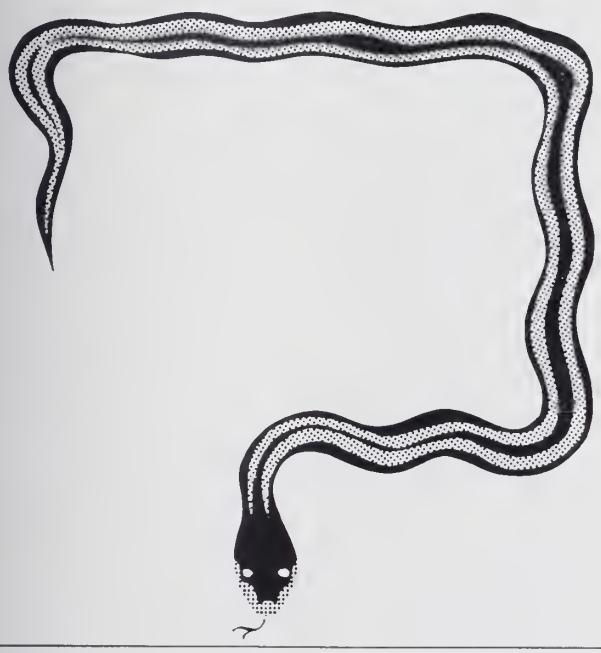
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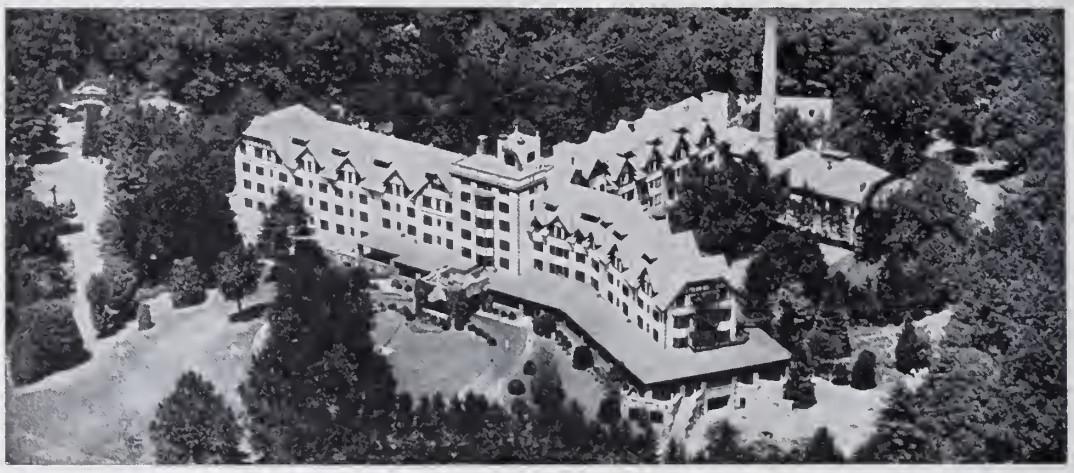
1. Riese, J.A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

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Usual adult dose: One tablet twice daily. **Precautions and side effects:** Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing steroids, should be observed for signs of hypokalemia. With thiazides, electrolyte depletion, diabetes, gout, granulopenia, nausea, pancreatitis, cholestatic jaundice, flushing, mild muscle cramps, constipation, photosensitivity, acute myopia, perimacular edema, paresthesias, neonatal bone marrow depression in infants of mothers who received thiazides during pregnancy, skin rash or purpura with or without thrombocytopenia, may occur. With reserpine, untoward effects may include depression, peptic ulcer and bronchial asthma. Withdraw medication at least 7 days prior to electroshock therapy, 2 weeks prior to elective surgery.

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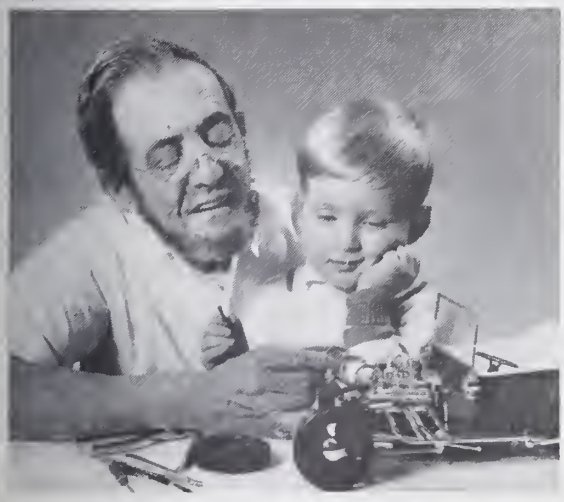
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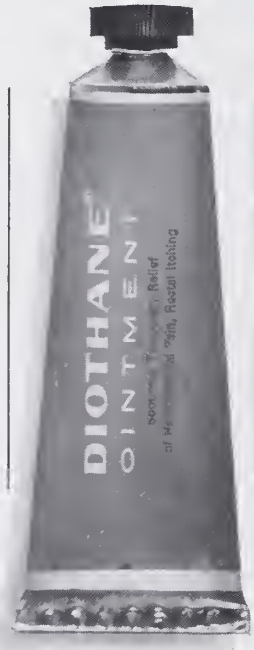
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INDICATIONS:
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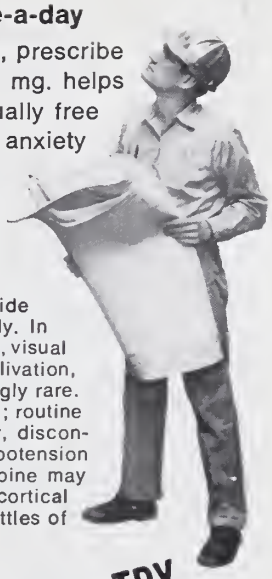
INDICATIONS:
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References: 1. Editorial: JAMA *191*:592 (Feb. 15) 1965. 2. Meilman, E., in Moyer, J.H.: Hypertension, Philadelphia, W.B. Saunders Company, 1959, p. 395.

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For complete information consult Official Package Circular.
Indications: Essential hypertension.
Warnings: Small-bowel lesions (obstruction, hemorrhage, perforation) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs.
Contraindications: Salutensin is contraindicated in severe depression.
Precautions: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss, which may cause digitalis intoxication, responds to potassium-rich foods, potassium chloride or, if necessary, stopping therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy two weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution with patients with peptic ulcers or renal insufficiency (if severe, Salutensin is contraindicated).
Side Effects: Hydroflumethiazide: Purpura plus or minus thrombocytopenia, hyperuricemia, leukopenia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. *Reserpine:* Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth and, with overdosage, agitation, insomnia and nightmares. *Protoveratrine A:* Nausea, vomiting, cardiac arrhythmia, prostration, excessive hypotension and bradycardia. (Treat bradycardia with atropine and hypotension with vasopressors.)
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*Marks, V., and Dawson, A.: Brit. M. J. *1*:293, 1965.



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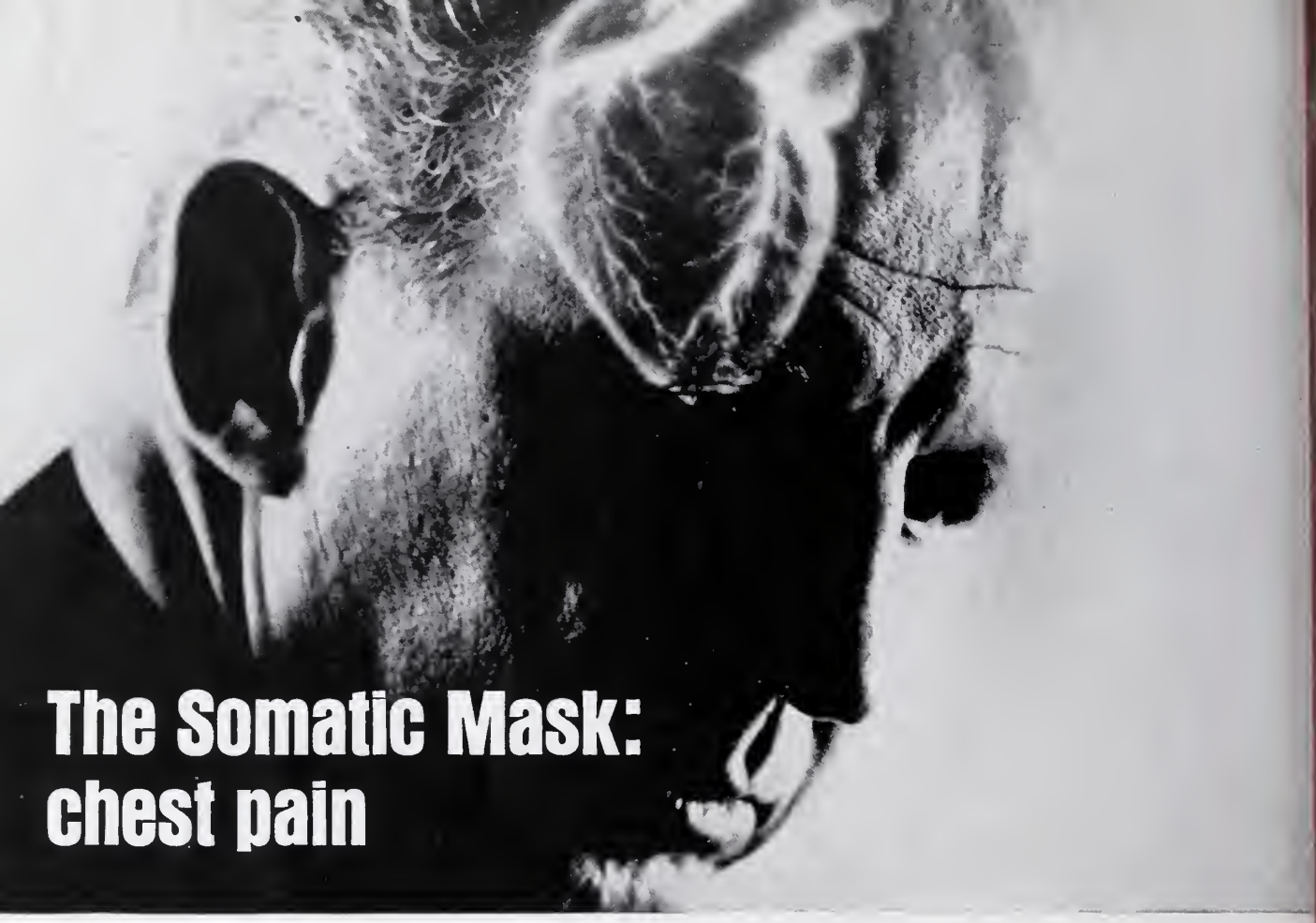
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heart disease or psychic tension?

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In prescribing: Dosage—Adults: Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hrs, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. Geriatric patients: 1 or 2 mg/day initially, increase gradually as needed.

Contraindications: Infants, patients with history of convulsive disorders or glaucoma.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazardous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances and hallucinations) and changes in EEG patterns. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

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VIRGINIA MEDICAL MONTHLY



MAY, 1966

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

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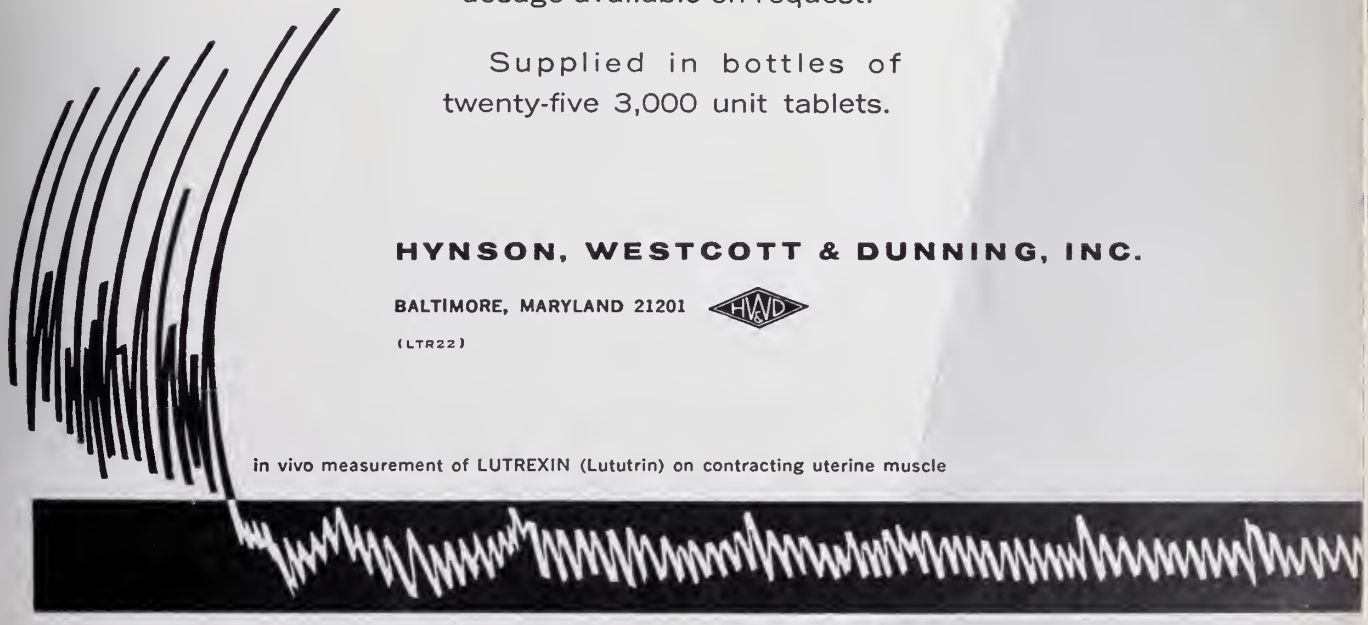
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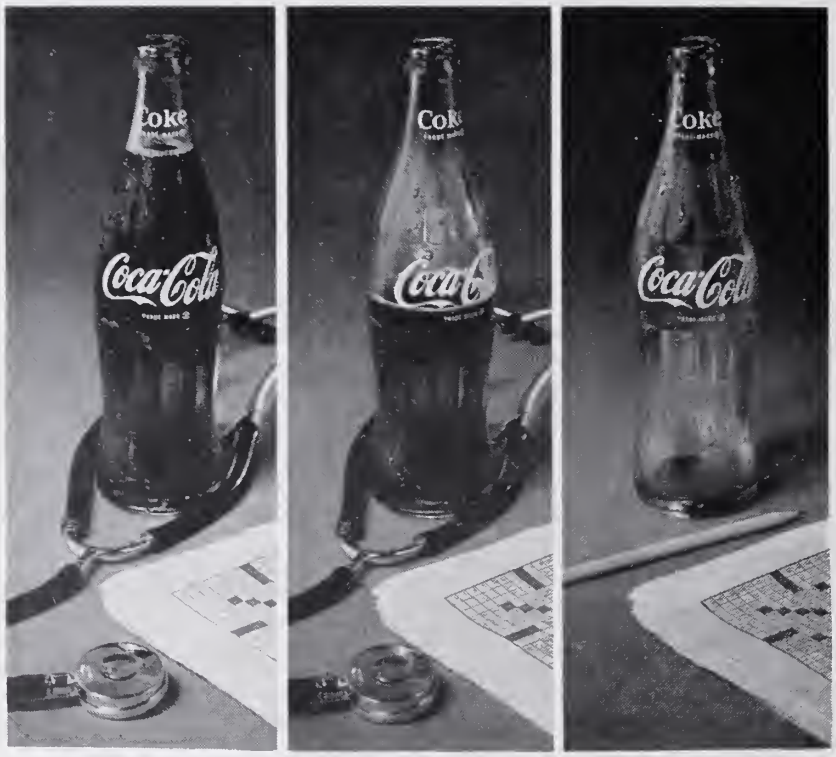
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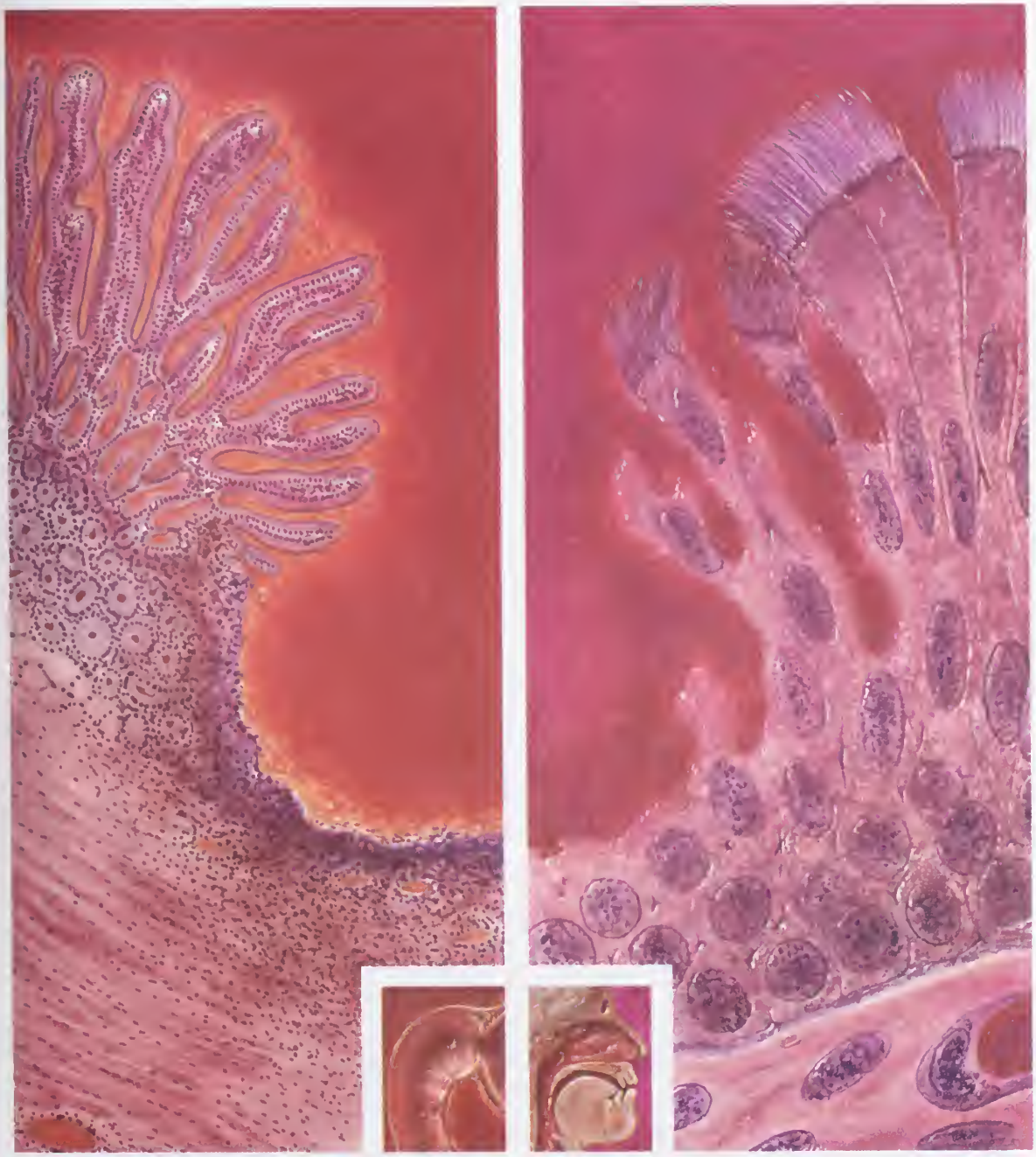
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Duodenal mucosa with ulcer crater—Approx. 80× Magnification.

Loosening epithelial cells of nasal mucosa during early stage of cold—Approx. 1800× Magnification.

this issue: partners in misery

Partners in misery: common cold and duodenal ulcer*



A century or two ago our forefathers believed that the common cold was caused by an excess of evil humors. Today we regard these baleful humors as a result of the cold rather than its cause. Only in the last ten years have some of the offending viruses been cultivated, and we now know many others can be transmitted to human volunteers although they cannot yet be grown in the laboratory. Various body defenses react to infection by a virus, and in the respiratory tract the lung is protected by the phagocytic properties of the pulmonary alveolar macrophage.[1]

Because of the brief history and large proportion of unidentified viruses, effective prophylactic vaccines have not yet appeared. A universal antiviral agent seems even more remote. Meanwhile, these viruses continue to produce epidemics of upper respiratory infection at seasonal intervals, particularly in spring, fall and winter, during which they propagate and distribute progeny indiscriminately. As a result, they are responsible for significant work loss. Since the immunity afforded is temporary, recurrent infections are common.

This recurrent morbidity in spring and fall is shared by duodenal ulcer, itself a cause of significant loss in wages and medical expense. Thirty years ago Emery and Monroe reported 1,279 recurrences of peptic ulcer of which 13 per cent could be attributed to upper respiratory infection, thus confirming a long-held clinical impression.[2] While the inflammation, congestion and secretion of the mucosa of the nasopharynx in the common cold, and the hyperemia and hypersecretion of the gastric mucosa during acute exacerbation of a duodenal ulcer may not be directly linked, it is probable that the miseries of the infection are reflected in the pain of the ulcer. The following case history illustrates this point.

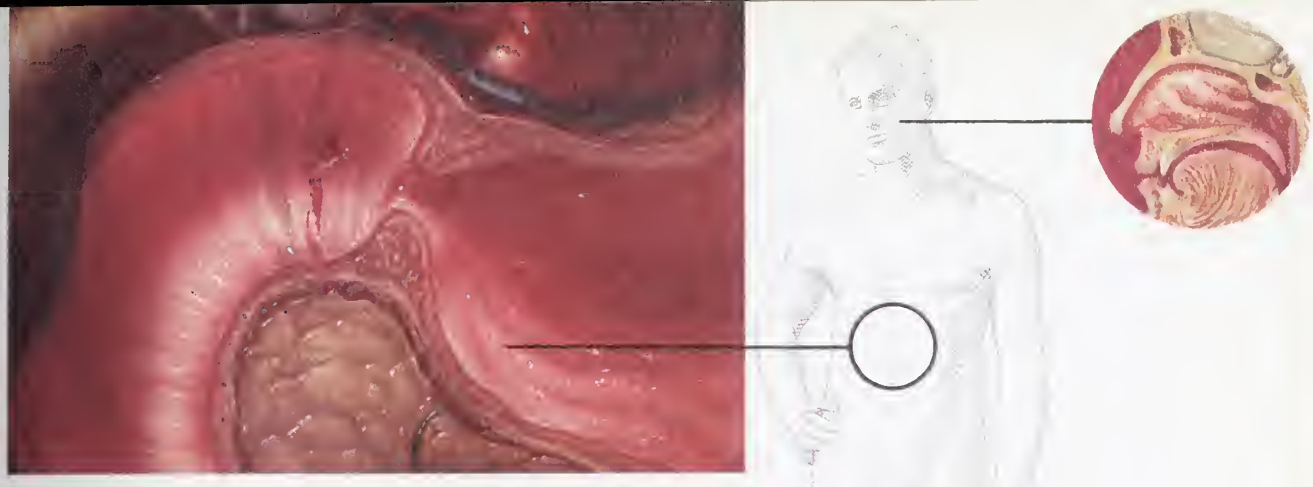
Case report A 48 year old white male executive, suffering from hematemesis and melena for 12 hours was admitted to hospital on April 8, 1965. He gave a history of duodenal ulcer proved by x-ray studies 23 years previously. In the intervening years he suffered from typical epigastric pain occurring two hours postprandially, usually for two or three weeks each spring and fall. A hospital admission two years earlier had followed hematemesis of moderate amount.

The present admission was preceded by a recurrence of pain during a period of unusual business pressure. In addition he caught a cold one week before his entry to hospital and his already irregular eating habits were made more so by loss of taste and appetite, blocked nose and general malaise. During the final 36 hours he used aspirin to relieve his cold, taking 2 or 3 tablets with a glass of water on 6 or 7 occasions. Before retiring he drank a glass of hot toddy.

He awakened about 1 a.m. and vomited dark red blood and recently ingested food mixed with whisky. Melena followed and he was transferred to hospital. On admission he was pale, cold and sweating. Apart from epigastric tenderness and black stool on the examining finger after rectal examination, his general physical examination was not remarkable. Temperature was normal, pulse was thin and thready with a rate of 114 beats per minute, and blood



The commonly found "clover-leaf" roentgenographic abnormality of chronic duodenal ulcer due to spastic contractions and scarring.



Typical site of duodenal ulcer showing anatomical relationship to gastroduodenal artery and common bile duct.

pressure measurement was 104/60mm. of mercury. Hemoglobin estimation was 8.6 grams per cent, but white blood count, chest x-ray and urinalysis were within normal limits. No further bleeding occurred. After blood transfusions and a suitable medical regime he was dismissed two weeks later and advised to return later for consideration of surgery.

The care of the ulcer patient suffering from a viral infection of the upper respiratory tract is additionally handicapped by the local and constitutional symptoms so produced. Indifference to food often makes it difficult to "feed a cold" even in a patient without an ulcer. In the ulcer patient this becomes more than a homily, for malaise and apathy towards irksome routine produce a lack of interest in adhering to an ulcer program and result in its eventual failure if these symptoms are not relieved. The absence of curative treatment for these viral infections has spawned many a strange therapeutic offspring and some of the more generally accepted remedies contain a special risk for the ulcer patient.

To the gastric physiologist, the shot heard around the world was not fired at Concord but was discharged through the stomach of Alexis St. Martin. The worthy voyageur had a more than modest thirst and on several occasions William Beaumont observed through the resulting fistula the changes of gastritis which followed an immoderate ingestion of alcohol.[3] It is now well known that alcohol stimulates the production of gastric juice and the patient with an ulcer, even in remission, should not drink alcohol without first taking food, milk or antacid. The use of various alcoholic remedies for the common cold is to be strongly discouraged in this type of patient. Factors already present can produce an acute exacerbation of ulcer symptoms without the added stimulus of alcohol.

Headache and facial pain, sore throat and generalized aching are subjective discomforts of viral infections of the upper respiratory tract or their complications. Relief from them is usually sought in the family medicine cabinet, and of all the medications habitually stored there, salicylates are the most frequently used. Oral ingestion of salicylates has produced



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substernal pyrosis and sometimes epigastric pain in susceptible individuals. Bleeding from erosions of the gastric mucosa has followed their use and has been severe enough in some instances to cause hematemesis and melena.[4] It has been suggested that interference with the protective mucous layer of the stomach allows this to happen. There is no evidence that hypersecretion occurs, but the taking of aspirin has been followed by exacerbation of ulcer symptoms and occasionally by gastrointestinal bleeding.[5] The ulcer patient with a cold should take salicylates with an antacid, or preferably other means of symptomatic relief should be found.

Caffeine has two actions on gastric secretion. One directly stimulates production of acid and the other potentiates the out-pouring of gastric juice as a response to other stimuli.[6] In high doses to animals, it has produced erosive gastritis and peptic ulceration. Caffeine-containing beverages are discouraged for the ulcer subject and forbidden during an acute exacerbation.[7] Many cold remedies contain caffeine.

To sufferers from allergic rhinitis springtime brings symptoms of nasal obstruction, loss of taste and smell and malaise similar to those caused by viral infection but due instead to allergens which at that time of year are principally tree pollens. Relief from these symptoms can be obtained, though not wisely, by the use of steroid medication. Unfortunately, chronic sufferers from these allergies have used this approach with varying degrees of success. Steroid hormones increase gastric secretion and delay the healing of experimental ulcers.[8,9] Clinically their administration has been associated with reactivation of healed duodenal ulcers, and with bleeding and perforation which were not always preceded by typical ulcer distress. Because of these harmful effects, their use in the ulcer patient is best avoided for other than serious medical problems and then only with adequate antacid coverage.

Summing up It is immaterial by which pathways the malaise and lassitude, depression and irritability activate an ulcer, but it is the physician's responsibility to ensure that the medications he selects to relieve the symptoms of a cold do not further aggravate the ulcer.

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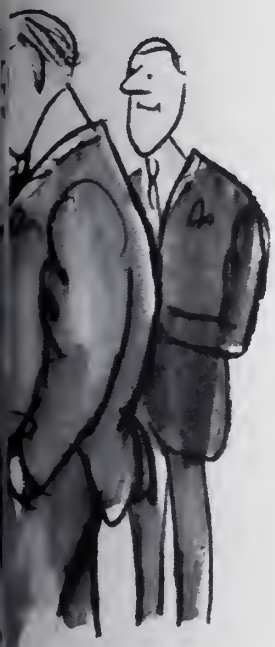
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Well, Doctor Cunningham, I was just telling Herbert I should talk to you about my cough. It comes from down here and...

Chances are the symptom recital may prove to be as difficult to control as the cough If it's the useless, exhausting type of cough that often accompanies respiratory infection or allergy, you can provide prompt relief with Novahistine DH. Its decongestant-antitussive action controls frequency and intensity of cough spasms without abolishing cough reflex. And the fresh, grape flavor of Novahistine DH appeals to children and adults alike.

When your diagnosis is bronchitis, complicated by thick tenacious exudates, Novahistine Expectorant is particularly useful. It not only provides decongestive action and controls the cough, but also encourages expectoration, thus easing bronchial obstruction.

Use with caution in patients with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Ambulatory patients should be advised that drowsiness may result. Continuous dosage over an extended period is contraindicated since codeine phosphate may cause addiction.

Each 5 ml. teaspoonful of Novahistine DH contains codeine phosphate, 10 mg. (Warning: may be habit forming); phenylephrine hydrochloride, 10 mg.; chlorpheniramine maleate, 2 mg.; chloroform (approx.), 13.5 mg.; l-menthol, 1 mg. (Alcohol 5%). Each 5 ml. of Novahistine Expectorant contains the above ingredients and, in addition, glyceryl guaiacolate, 100 mg.

NOVAHISTINE® DH

NOVAHISTINE® EXPECTORANT

DOW **PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis



Butazolidin® alka

phenylbutazone	100 mg.
dried aluminum hydroxide gel	100 mg.
magnesium trisilicate	150 mg.
homatropine methylbromide	1.25 mg.

In rheumatoid arthritis—effective therap with minimal chance of G-I upset

Therapeutic Effects
Fifty to 75% of patients obtain major relief of arthritic symptoms, as reported by numerous clinicians. In addition, the problem of gastric upset—a major problem with certain other oral antiarthritic agents—is minimized by the presence of antacids and an antispasmodic in the formulation.

Improvement is generally seen within 3 to 4 days, and trial therapy need not be continued beyond a week. Relief of pain is followed quickly by resolution of inflammation and improved joint function. Relief of symptoms is often accompanied by increased appetite, gain in weight and an improved sense of well-being.

The initial response is usually maintained without dosage increases; indeed, initial dosage is often reduced for maintenance purposes.

Salicylate or steroid therapy can usually be diminished or, in some instances, eliminated.

Contraindications
Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. Because of the increased possibility of toxic reactions, the drug should not be given when the patient is senile or when other potent chemotherapeutic agents are given concurrently. Large doses of Butazolidin alka are contraindicated in patients with glaucoma.

Precautions
Before prescribing, the physician should obtain a detailed history and perform a complete physical and laboratory examination, including a blood count. The patient should be kept under close supervision and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools. Regular blood counts should be made. The drug should be used with greater care in the elderly.

Warning
If coumarin-type anticoagulants are given simultaneously, the physician should watch for excessive increase in prothrombin time.

Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea and sulfonamide-type agents and insulin. Patients receiving such concomitant therapy should be carefully observed for this effect.

Adverse Reactions
The most common adverse reactions are nausea, edema and drug rash. The drug may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, generalized allergic reaction, stomatitis, salivary gland enlargement, vertigo and languor may occur. Leukemia and leukemoid reactio have been reported but cannot definitel attributed to the drug. Thrombocytoper purpura and aplastic anemia are also p sible side effects. Confusional states, agitation, headache, blurred vision, opt neuritis and transient hearing loss have been reported, as have hepatitis, jaund and several cases of anuria and hematu With long-term use, reversible thyroid hyperplasia may occur infrequently.

Average Dosage in Rheumatoid Arthriti
Initial: 3 to 6 capsules daily in divided d It is usually unnecessary to exceed 4 ca sules daily. A trial period of 1 week is ad quate to determine response; in the abs of favorable response, discontinue.

Maintenance: An effective level is often achieved with 1 to 2 capsules daily; do n exceed 4 daily.

Also available:
Butazolidin®, phenylbutazone Tablets of 100 mg.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

Geigy



"Everything I eat turns to FAT!"

For the patient who must lose more than 15, 25 or even 50 pounds

POSTAGE WILL BE PAID BY ADDRESSEE

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY CARD First Class Permit No. 4, Mystic, Connecticut

COOPER, TINSLEY LABORATORIES INC.
Mystic, Connecticut



For the patient who must lose more than 15, 25 or even 50 pounds...

the patient who must adhere to a long-term regimen—mere appetite suppressants are often not broad enough in scope. They suppress appetite and help achieve minor weight loss, but after several weeks the patient frequently becomes discouraged by a weight plateau. Many times other problems such as anxiety, constipation and hunger spasm complicate therapy.

Phantos Day-Long Action Capsules afford more complete obesity control because one capsule daily provides much more than mere appetite suppression. In addition to day-long appetite control, Phantos capsules supply a mild metabolic boost, alleviate hunger spasm, provide general mild laxation and promote sound sleep.

Unlike ordinary anorectics, the Phantos formula anticipates the problems which demoralize the dieting patient. The components are released at different times throughout the day, thus adhering to the changing pattern of the patient's need.

Each Phantos Day-Long Action Capsule supplies: for immediate release—amphetamine sulfate 5 mg., thyroid ½ gr., atropine sulfate 1/360 gr., aloin ¼ gr.; for intermediate release—amphetamine sulfate 5 mg., thyroid ½ gr., atropine sulfate 1/360 gr.; for final release—amphetamine sulfate 5 mg., thyroid ½ gr., phenobarbital* ¼ gr.
Also, Phantos-10: two-thirds above formula.

Dosage: One Phantos capsule daily, taken before breakfast.

Precautions: Contraindicated in cases of marked hypertension, coronary or cardiovascular disease, diabetes mellitus and thyroid disease. Use with caution in patients hypersensitive to barbiturates or sympathomimetic compounds (*Warning: May be habit-forming).

COOPER-TINSLEY

PH-5-SJ

Unlike ordinary anorectics

Phantos® DAY-LONG ACTION CAPSULES

anticipate the problems which demoralize the dieting patient

COOPER, TINSLEY LABORATORIES INC.
Mystic, Connecticut

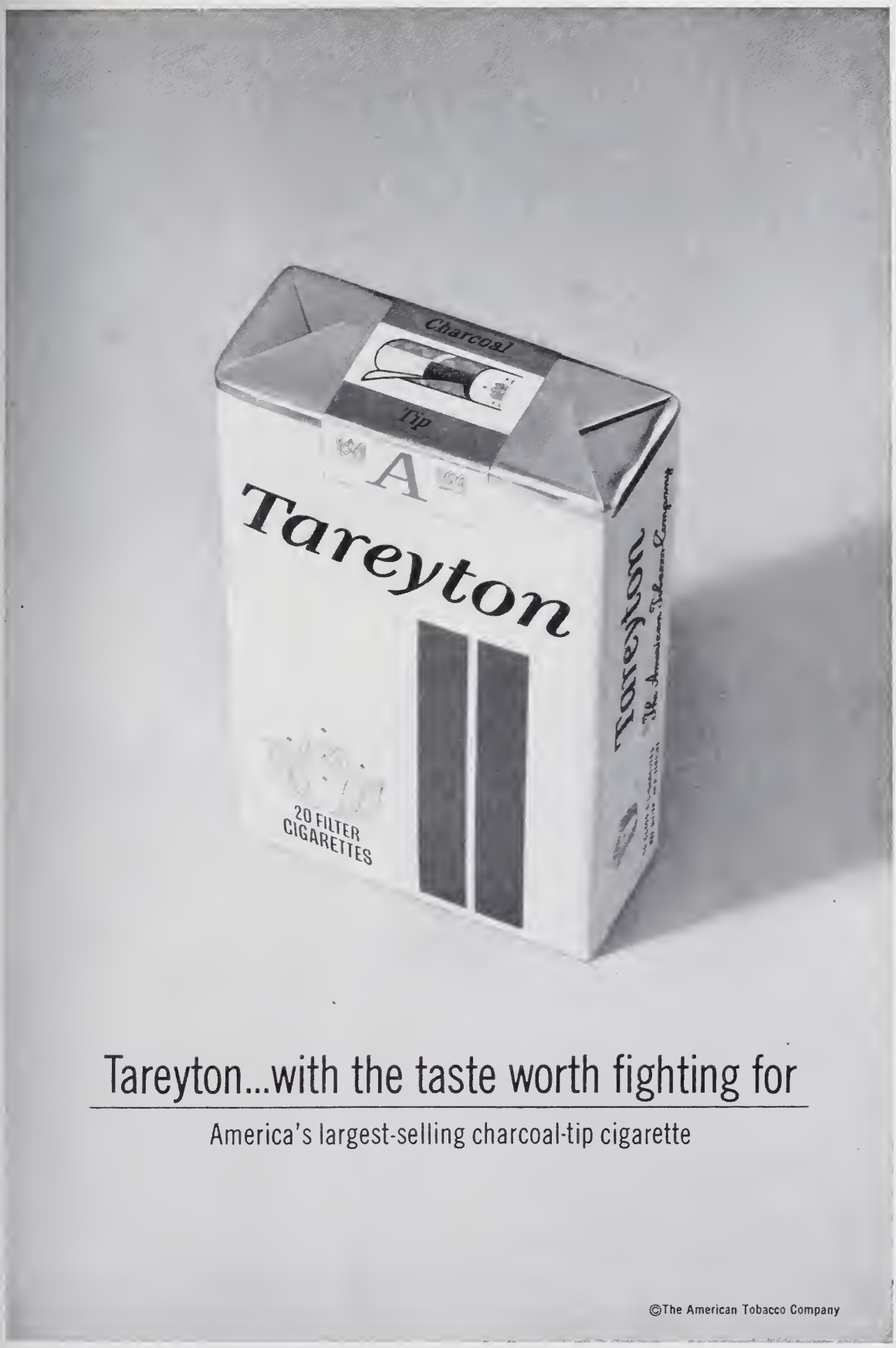
Gentlemen:
Please send me a sample supply of **Phantos®** *Day-Long Action Capsules*

M.D.

(Name)

(Street)

(City) (State) *(Zip)*

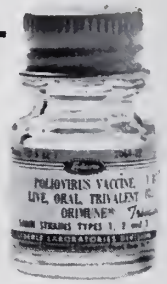


Tareyton...with the taste worth fighting for

America's largest-selling charcoal-tip cigarette

©The American Tobacco Company

single-dose vials for convenient and economical polio immunization



ORIMUNE® TRIVALENT
POLIOVIRUS VACCINE, LIVE, ORAL SABIN STRAINS TYPES 1, 2 and 3

Fast, simple administration—and economy for the patient—make the new 0.5 cc single-dose vial of ORIMUNE Trivalent ideal for private practice. (Packaged 5 to a box with 5 sterilized disposable droppers for your convenience.)
(Also available in 2 cc and 2 drop dosage forms.)

Only 2 doses required for complete, initial immunization for patients more than a year old. *Effectiveness*—may be expected to confer active immunity against all three types of poliovirus infection in at least ninety percent of susceptibles only if given at full dosage, as directed. No characteristic *side effects* have been reported. There are, however, certain *contraindications*. These are, broadly: acute illness, conditions which may adversely affect immune response, and advanced debilitated states. In these, vaccination should be postponed until after recovery.

In infants vaccination should not be commenced before the sixth week of life. Do not give to patients with viral disease, or if there is persistent diarrhea or vomiting. ORIMUNE and live virus measles vaccine should be given separately.

Dosage—initial immunization: two doses each given orally at least 8 weeks apart. (Give a third dose to infants at 10-12 months.) Booster immunization: one dose, given orally. See package literature for full directions.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York
660·6—3761

Lederle

TOPICAL TREATMENT

TYPICAL RESULTS



PRIMARY PYODERMA



AFTER TREATMENT WITH
'NEOSPORIN' ANTIBIOTIC OINTMENT
AND SALINE COMPRESSES

with 'NEOSPORIN'® brand

Polymyxin B-Neomycin-Bacitracin OINTMENT

Each gram contains:

'Aerosporin'® brand Polymyxin B Sulfate ..... 5,000 Units

Zinc Bacitracin ..... 400 Units

Neomycin Sulfate (equivalent to 3.5 mg. Neomycin Base) ..... 5 mg.

Tubes of ½ oz. and 1 oz.

- clinically effective
- comprehensive bactericidal action against most Gram-negative and Gram-positive organisms, including Pseudomonas
- rarely sensitizes

For the eradication of infectious organisms in a wide range of dermatologic disorders: impetigo, ecthyma, pyodermas, sycosis vulgaris, paronychia, traumatic lesions, eczema, herpes and seborrheic dermatitis. Prophylactically, for protection against bacterial contamination in burns, skin grafts, incisions and other clean lesions, abrasions and minor cuts and wounds.

Caution: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs.

Contraindication: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

Complete literature available on request from Professional Services Dept. PML.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York

to help relieve pain in common anorectal disorders

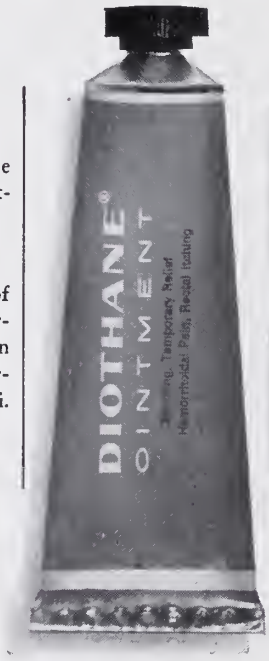
"non-caine" Diothane®

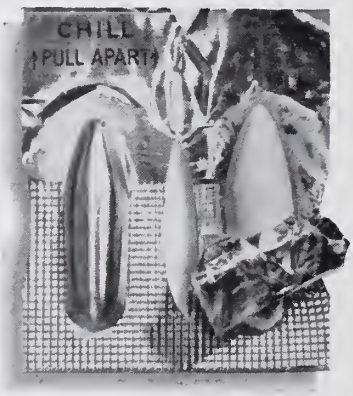
Diothane—with its chemically distinct "non-caine" anesthetic agent diperodon—provides effective temporary topical anesthetic and emollient actions for soothing relief of anorectal pain. Anesthetic activity is effective and relatively prolonged; sensitization is infrequent. Reports to Merrell on 1,500 patients treated pre- and postoperatively with Diothane Ointment, indicate only 22 developed local skin reactions. Reactions to Diothane have been burning or stinging sensations and a few cases of allergic manifestations. An additional advantage: Diothane Ointment and Suppositories are mildly antiseptic. Prescribe or recommend either form...both are now available.

DIOTHANE OINTMENT

COMPOSITION:
diperodon 1.0%; oxyquinoline benzoate 0.1% in a special ointment base.

INDICATIONS:
Provides temporary palliation of pain that may result from hemorrhoidectomy and from common anorectal disorders such as hemorrhoids, anal fissures, pruritus ani.





DIOTHANE SUPPOSITORIES

COMPOSITION:
Each suppository, weighing approximately 2.6 Gm., contains diperodon 1.0%; urea 10.0%; oxyquinoline benzoate 0.1% in a special hydrophilic suppository base. A unique shape keeps the suppository in intimate contact with mucous membranes.

INDICATIONS:
Provide for temporary palliation of pain caused by hemorrhoids and pruritus ani.

Merrell

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215/Weston, Ontario



the sedentary life is often the seat of low back pain

The human spine is not engineered fo prolonged sitting at desks, pianos, type writers and drafting boards. The stresses set up by the heavy, forward-tilted heac and trunk, balanced precariously on ar insufficient base, result in strain of the dorsal musculature, particularly at the low lumbar level.

The unusual muscle-relaxant and analgesic properties of 'Soma' make it espe cially useful in the treatment of low back sprains and strains. 'Soma' is widely prescribed ☐ **to relieve pain** ☐ **to relax muscles** ☐ **to restore mobility.**

Indications: 'Soma' is useful for management o muscle spasm, pain, and stiffness in a variety o inflammatory, traumatic, and degenerative muscu loskeletal conditions. It also may act to normalize motor activity in certain neurologic disturbances

Contraindications: Allergic or idiosyncratic reactions to carisoprodol.

Precautions: 'Soma', like other central nervous system depressants, should be used with caution in patients with known propensity for taking excessive quantities of drugs and in patients with known sensitivity to compounds of similar chemical structure, e.g., meprobamate.

Side Effects: The only side effect reported with any frequency is sleepiness, usually on higher than recommended doses. An occasional patient may not tolerate carisoprodol because of an individual reaction, such as a sensation of weakness. Other rarely observed reactions have included dizziness, ataxia, tremor, agitation, irritability, headache, increase in eosinophil count, flushing of face, and gastrointestinal symptoms.

One instance each of pancytopenia and leukopenia, occurring when carisoprodol was administered with other drugs, has been reported, as has an instance of fixed drug eruption with carisoprodol and subsequent cross reaction to meprobamate. Rare allergic reactions, usually mild, have included one case each of anaphylactoid reaction with mild shock and angioneurotic edema with respiratory difficulty, both reversed with appropriate therapy. In cases of allergic or hypersensitivity reactions, carisoprodol should be discontinued and appropriate therapy initiated. Suicidal attempts may produce coma and/or mild shock and respiratory depression.

Dosage: Usual adult dose is one 350 mg. tablet three times daily and at bedtime.

Supplied: Two Strengths: 350 mg. white tablets and 250 mg. orange, two-piece capsules.

Before prescribing, consult package circular.

for the relief of low back sprains and strains

SOMA®
(CARISOPRODOL)

Wallace Laboratories, Cranbury, N.J.
26S01J



Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

Valentine's
MEAT EXTRACT

stimulates the appetite,

increases the flow of digestive juices,

provides: supplementary amounts of vitamins, minerals and soluble proteins,

extra-dietary vitamin B_{12},

protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA

Bamadex® Sequels®

Contraindications: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised; especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of pre-existing symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dose—operation of motor vehicles, machinery or other activity requiring alertness should be avoided. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia, the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor, and respiratory collapse.



First aid for a button popper



Second aid for a button popper

Bamadex® Sequels®

d-amphetamine sulfate (15 mg.) and meprobamate (300 mg.)
Sustained Release Capsules

By providing combined anorexigenic-tranquilizing action, BAMADEX SEQUELS Capsules help your nonshrinking patients to establish new patterns of eating less. The amphetamine component suppresses the appetite, while the meprobamate helps allay nervousness and tension. And for most patients, the *sustained* release of the active ingredients makes possible convenient one-capsule-a-day dosage.

LEDERLE LABORATORIES · A Division of American Cyanamid Company, Pearl River, New York

Lederle

6655

Just because Susie had the same symptoms, is it likely her neighbor needs the identical medication?



Number 2 of a series published in Washington, D.C. newspapers

Peoples advises the public to trust *only* the advice of a physician. Next time you see a Peoples ad, take a minute of your busy day to read it. You might be pleasantly surprised to see that all advertisements don't shout "sale." *Peoples is professional.*

PEOPLES PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1965 • A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES



makes sleep irresistible

nidar®

EACH TABLET CONTAINS:

Pentobarbital Sodium	25 mg.
Secobarbital Sodium	25 mg.
Butabarbital Sodium	7.5 mg.
Phenobarbital	7.5 mg.

(WARNING: MAY BE HABIT FORMING)

ARMOUR PHARMACEUTICAL COMPANY
Chicago, Illinois, U.S.A.

nidar®

Sleep comes easy...lingers...departs naturally

Gentle doses of 4 barbiturates assure uninterrupted sleep

2 barbiturates act fast...in 20 to 30 minutes

2 long-range barbiturates come into play to sustain sleep for up to 8 hours

Tiny amounts of individual barbiturates means Nidar is well tolerated

Patients enjoy a refreshing, clear-headed wake-up

makes sleep irresistible



IN BRIEF:

EACH TABLET CONTAINS:

Pentobarbital Sodium	25 mg.
Secobarbital Sodium	25 mg.
Butabarbital Sodium	7.5 mg.
Phenobarbital	7.5 mg.

(WARNING: MAY BE HABIT FORMING)

Dosage: One or two tablets, one-half hour before bedtime.

Indications: For night-time sedation and refreshing sleep up to eight hours.

Contraindications: Patients sensitive to barbiturates. Use with caution in the presence of moderate to severe hepatic disease.

Supplied: Bottles of 100 tablets.

CAUTION: Federal law prohibits dispensing without a prescription.

ARMOUR PHARMACEUTICAL COMPANY
Chicago, Illinois, U.S.A.



in any language

serpate®

(RESERPINE)

is the number one, first drug for moderate hypertension

As a first step:

SERPATE® (Reserpine) exerts a gradual, sustained reduction of blood pressure

SERPATE® (Reserpine) relieves anxiety and tension in hypertensive patients with low resistance to everyday crises

SERPATE® (Reserpine) is modestly priced

SERPATE® (Reserpine) in low oral dosage is characterized by a minimum of serious reactions and low-yield side effects—thus, it may be used with comparative assurance

SERPATE® (Reserpine) combines readily with more potent antihypertensives for patients exhibiting severe hypertension

Physician samples and technical data sent on request

(Supplied in doses of 0.1 mg. white tablets and 0.25 mg. yellow tablets)

VALE

THE VALE CHEMICAL CO., INC.
PHARMACEUTICALS • ALLENTOWN, PENNSYLVANIA

INDICATIONS: moderate hypertension; labile hypertension, particularly when accompanied by tachycardia or neurosis; and as adjunctive therapy to the more powerful hypotensive drugs in severe hypertension.

DOSAGE: The initial dosage of SERPATE® (reserpine) is 0.5 mg. to 1.0 mg. in divided doses daily. Initial dosage should not be continued more than one week. After one week, the recommended daily dosage is 0.1 mg. to 0.25 mg. An occasional patient will require a maintenance dose of 0.5 mg., but if adequate response is not obtained from this dosage it is well to consider adding another hypotensive agent rather than increase the dosage. Reserpine action is cumulative and maximum response may not be observed until several days to two weeks elapse after therapy is initiated. Slight residual effects may persist for several weeks after discontinuation of therapy. Important: Use SERPATE® (reserpine) with caution in patients with history of mental depression, peptic ulcer, or ulcerative colitis. Members of patient's family should be alerted to watch for and report any symptoms of mental depression.

WARNING: Anesthetics have been found to increase the hypotensive effect of reserpine. Caution should be taken to withdraw patients from SERPATE® (reserpine) two weeks prior to administering anesthetics or to elective surgery. Use with caution in gravid patients. Reserpine passes the placental barrier and may affect the newborn.


Think about it.
Think about car-leasing. Dependable transportation, always there when you need it. You always drive a new car at lowest cost, less than rentals. Always properly serviced for efficient performance; available anywhere in Virginia. Frees working capital. Tax advantages, too.
Makes sense. Think about it. Then call our Lease Manager, Joseph Reynolds, at 233-9861 for Haley's care-lease service. Haley Pontiac at 9th and Hull Streets in Richmond, Virginia . . . for your choice of any make or model car, domestic or imported.

An antibiotic of choice is one that works

TAO works

Susceptibility Results
Staphylococci [2,3,1]

# OF CULTURES	YEAR	% EFFECTIVE
6,725	1962	88.6%
5,440	1963	88.0%
10,384	1964	88.5%

β-Hemolytic Streptococci [2,3,1]

2,448	1962	89.5%
1,519	1963	95.2%
2,492	1964	96.7%

The Product

In a world study of antibiotics *in vitro*[1], TAO had an overall effectiveness of 87.3%, higher than chloramphenicol and erythromycin, and significantly higher than tetracycline and penicillin.

The Plus... Consistent Performance

Yet antibiotics must not only work. They must work consistently. Here are the results from the largest study of microbial susceptibility ever undertaken. In 29,048 cultures of overt staphylococcal and β-hemolytic streptococcal infections, note the consistency of results with TAO.

TAO®

[triacetyloleandomycin]

J. B. Roerig and Company, New York, New York 10017
Division, Chas. Pfizer & Co., Inc., Science for the World's Well-Being*

TAO Rx information

Indications: The bacterial spectrum includes: streptococci, staphylocci, pneumococci and gonococci. Recommended for acute, severe infections where adequate sensitivity testing has demonstrated susceptibility to this antibiotic and resistance to less toxic agents. **Contraindications and Precautions:** TAO (triacetyloleandomycin) is not recommended for prophylaxis or in the treatment of infectious processes which may require more than ten days continuous therapy. In view of the possible hepatotoxicity of this drug when therapy beyond ten days proves necessary, other less toxic agents, of course, should be used. If clinical judgement dictates continuation of therapy for longer periods, serial monitoring of liver profile is recommended, and the drug should be discontinued at the first evidence of any form of liver abnormality. It is contraindicated in pre-existing liver disease or dysfunction, and in individuals who have shown hypersensitivity to the drug. Although reactions of an allergic nature are infrequent and seldom severe, those of the anaphylactoid type have occurred on rare occasions. **References:** 1. Isenberg, Henry D.: Health Laboratory Science **2**:163-173 (July) 1965. 2. Fowler, J. Ralph et al: Clinical Medicine **70**:547 (Mar.) 1963. 3. Isenberg, Henry D.: Health Laboratory Science **1**:185-256 (July-Aug.) 1964.



Low host resistance?

Consider the "extra" antibacterial activity of Ilosone®

Occasionally, therapeutic failure is due to the patient's inability to mobilize his defenses sufficiently to overcome infection. Typical of this is the debilitated patient, the premature infant, or the diabetic. It is in these patients that the high levels of antimicrobial activity of Ilosone are especially useful. Ilosone has demonstrated antibacterial levels two to four times those of erythromycin base or stearate. Furthermore, it attains them earlier and maintains them longer. Even the presence of food does not appear to affect the activity of Ilosone.

Contraindications: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

Side-Effects: Even though Ilosone is the most active oral form of erythromycin, the incidence of side-effects is low. Infrequent cases of drug idiosyncrasy, manifested by a form of intrahepatic cholestatic jaundice, have been reported. There have been no known fatal or definite residual effects. Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of patients as a result of a local stimulating action of Ilosone on the alimentary tract. Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

Dosage: *Children under 25 pounds*—5 mg. per pound of body weight every six hours. *Children 25 to 50 pounds*—125 mg. every six hours. *Adults and children over 50 pounds*—250 mg. every six hours. For severe infections, these dosages may be doubled.

Available in Pulvules®, suspension, drops, and chewable tablets. Ilosone Chewable tablets should be chewed or crushed and swallowed with water.

Ilosone®

Erythromycin Estolate

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana. 501280

Lilly

The Virginia
MEDICAL MONTHLY

May, 1966
Vol. 93, No. 5
Whole No. 1368

Guest Editorial . . . .

Help for the Sick after July 1, 1966

THIS DREADED DATE is the birthday of Medicare. The month of July and the future will introduce unprecedented demands for medical care in and out of hospitals and nursing homes. Long term plans for new medical schools, new and renovated hospitals, improved nursing, et cetera, will not help the immediate future.

There are, however, some very practical and helpful moves that will give early relief.

1. There have always been patients in hospitals who could have had adequate care at home. Since the advent of Blue Cross and other hospital insurance plans, this has been significantly increased. The doctors can and should control this by refusing admission to these patients and by suppressing their own desire to lessen their burden by such admissions.

2. The use of available doctors and improvement of hospital service in non-teaching hospitals could be tremendously helped by securing interns. Years ago Dr. Harvey B. Stone advocated abolishing the interne year in teaching hospitals. Their work in the hospitals can be done by the fourth year medical student with real improvement in that year of study. The medical graduate too would benefit by a year away from his academic surrounds and learn more of the individual care of sick people. After this year those who wish to go on to special resident training would return to such teaching or other appropriate hospitals. Acceleration of production of physicians can be accomplished

by operating medical schools for twelve months so one can graduate in three years instead of four.

3. The problem of nursing care has become more difficult every year. Some years ago Dr. Harry J. Warthen and I advocated two years of training for Graduate Nurses with greater stress on clinical work. This would adequately prepare a nurse for floor duty and special care.

Those graduates who wish to enter special fields could take postgraduate training, or continue their study to academic degrees, just as physicians take resident training in the specialties. The trend has been forced by the nursing profession in the opposite direction. More and more academic study is required of all schools and in the teaching institutions four year degree courses are required.

It should be obvious that we want adequately trained doctors and nurses, but the school that train them should take care that they are not over-trained.

CARRINGTON WILLIAMS, M.D.

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805 West Franklin Street
Richmond, Virginia

A Simplified Glucola Tolerance Test for Use in Diabetes Detection Drives and Office Practice

BROWN W. DENNIS, M.D.
GUY F. HOLLIFIELD, M.D.
JOHN A. OWEN, JR., M.D.
Charlottesville, Virginia

A simplified diagnostic test for diabetes uses Glucola for the carbohydrate load. This bottled, carbonated beverage contains 75 Gm. of carbohydrate.

A FIVE-DAY DIABETES DETECTION DRIVE was held at the University of Virginia Hospital in November, 1964. Publicity aimed at attracting high risk potential diabetics brought to the Detection Center six known diabetics and 704 persons not previously known to be diabetic. The detection system involved use of the new commercial carbohydrate loading solution, Glucola (Ames), containing 75 grams of carbohydrate in a carbonated cola-flavored beverage. Blood drawn 90 minutes after Glucola was used for plasma glucose determination by the Auto-analyzer. Patients were given Glucola regardless of how recently or how much they had eaten. Only one participant failed to return for a 90-minute blood sugar and one patient vomited after receiving Glucola. Of the 702 patients who completed the test, 130 were screened out because of 90-minute plasma sugars above 140 mg.%. Retesting of this latter group was carried out after three days on a 300-gram carbohydrate diet, using the standard 100-gram glucose tolerance test with sugars obtained fasting, one hour, one and a half hours, and two hours. We considered a positive glucose tolerance test to be one in which blood sugar values all exceeded 160, 140, and 120 mg.% at one, one and a half, and two hours respectively.

Of 103 patients whose screening values fell between 141 and 199 mg.%, 87 returned for retesting and 28 (33%) had positive glucose tolerance tests. Nineteen patients had screening values between 200-249 mg.%. Fifteen of these patients were retested and all were found to be diabetic; therefore, the other four may also be assumed to be diabetic. Eight patients with screening values above 250 mg.% were regarded as diabetic without retesting and were so referred to their physicians. In all, 55 of the 702 participants were found to have chemical diabetes, an incidence of 7.8% or 78 new diabetics per 1,000 tested. When our study is compared to a USPHS study of over 15,000 Federal employees, who consumed 78 mg. of carbohydrate in the form of candy bars and were screened at two hours (plasma sugars $>$ 130 mg.%), it is found that our screening rate was one and a half-two times greater. Even when such factors as obesity, age, and family history are taken into account, the screening rate of the University of Virginia study remained significantly higher than that of the Federal Study.

Ingestion of carbohydrate calories within one hour of drinking Glucola did not seem to affect the validity of the 90-minute plasma sugar as a screening test for diabetes.

From the Department of Internal Medicine, University of Virginia, School of Medicine.

Presented before the Virginia Diabetes Association, Hot Springs, March 26, 1965.

The median 90-minute plasma sugar level of the group of patients who were fasting and of those who had eaten 300 or more carbohydrate calories in the hour prior to the test was the same, between 110-120 mg.%. Those patients who had eaten one to 299 calories of carbohydrate had an even lower median plasma sugar, between 100-110 mg.% at 90 minutes. Thus, we believe that Glucola may be used in the doctor's office as a loading dose of carbohydrate in patients at any time of the day regardless of the patients' state of alimentation.

The success of our drive can be ascribed to the high numbers of potentially diabetic persons attracted by newspaper publicity, the use of a loading dose of carbohydrate in the form of Glucola, a low screening level of plasma glucose at 90 minutes, and careful retesting of most of those with elevated screening values in our own laboratory.

University of Virginia Hospital
Charlottesville, Virginia

New Drug for Gonorrhea

Preliminary tests have been favorable for a new antibiotic used to treat gonorrhea, says a report in the March 14th Journal of the America Medical Association. The drug, cephaloridine, may prove particularly effective in treating persons allergic to penicillin, which is commonly used against gonorrhea. Cephaloridine may also be effective against gonococcal strains that are showing increasing resistance to penicillin.

The Journal report is from the Communicable Disease Center of the U.S. Public Health Service, Atlanta, and the Fulton County (Atlanta) Health Department.

A cure rate of between 88 and 98 per cent was obtained when 84 male patients were given a single intramuscular injection of the drug. (Doctors aren't sure of the exact cure rate because about half the men didn't return for a checkup. Three who did return had probable reinfections.)

Stressing that this is a preliminary report, the authors point out that larger numbers of patients, including women, now need to be tested. These early results, however, suggest that cephaloridine was effective and produced little, if any, allergic reaction.

Cephaloridine has been produced in England and has been the subject of several favorable clinical reports there. Advantages of cephaloridine over a related drug, cephalothin, include a longer level of effectiveness in the blood, greatly increased solubility, and freedom from pain on injection.

"Many reports during the past 10 years have demonstrated an increasing resistance of gonococci to penicillin. This has required that penicillin dosages be increased periodically to maintain satisfactory cure rates.

"While estimates vary widely, it is generally conceded that 5 to 10 per cent of the population is now allergic to penicillin in some manner. Many of these patients receive therapy with alternate and often less effective antibiotics."

Authors of the report are James B. Lucas, M.D., and James D. Thayer, Ph.D., of the Public Health Service, and Phillip M. Utley, M.D., Terrence E. Billings, M.D., and James E. Hackney, M.D., of the Fulton County Health Department.

The Use of the Dextrostix in the Detection of Diabetes

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The determination of blood sugar with the Dextrostix has the advantage of convenience and it is useful as a screening test. The test requires precise timing and has an error of 30 mg%, however, which makes it unsuitable for critical work.

DURING THE 1964 DIABETES DETECTION DRIVE in Norfolk, an evaluation of the effectiveness of the Dextrostix in the detection of diabetes was made. This paper reports on the study. The detection drive was conducted in two phases, the first for ambulant persons and the second for patients admitted to the hospitals in the city.

Phase I. Ambulant Persons

Blood samples between two and three hours after a high carbohydrate meal were obtained. Most persons were screened by both the Dextrostix method and the Clinitron (Wilkerson-Heftmann test). Blood sugar tests of 130 mg/100 ml. by either test were considered to be positive and these were then checked by the auto analyzer. The result of the auto analyzer test, providing that it confirmed the screening test, was sent to the tested individual or his physician. The decision concerning the diagnosis of diabetes was either made or rejected by the physician. A diagnosis was established on all except one whose death prohibited a follow-up.

Presented before the Virginia Diabetes Association, Hot Springs, March 26, 1965.

TABLE 1

TESTS PERFORMED IN TESTING CENTERS

Clinitron Only	181
Dextrostix Only	9
Both Clinitron and Dextrostix	1117
Total Tested	1307

TABLE 2

POSITIVE TESTS

Clinitron and Dextrostix positive	19
Clinitron positive—Dextrostix negative	15
Clinitron negative—Dextrostix positive	20
Clinitron positive—Dextrostix not done	3
Total	57

TABLE 3

CLINITRON POSITIVE—DEXTROSTIX POSITIVE

Number Tests	Previously Known Diabetics	Previously Unknown Diabetics	Not Diabetic	Follow-Up Inadequate
19	7	7	4	1

CLINITRON POSITIVE—DEXTROSTIX NEGATIVE

Number Tests	Previously Known Diabetics	Previously Unknown Diabetics	Not Diabetic	Follow-Up Inadequate
15	4	4	7	0

CLINITRON NEGATIVE—DEXTROSTIX POSITIVE

Number Tests	Previously Known Diabetics	Previously Unknown Diabetics	Not Diabetic	Follow-Up Inadequate
20	4	2	14	0

Had the Clinitron alone been used, 22 cases of diabetes would have been detected instead of 28. Had the Dextrostix alone been used, 20 cases of diabetes would have been detected instead of 28.

Phase II. Hospital Admissions

An attempt was made to obtain a two to three hour post prandial blood sugar determination on all adult patients admitted to the Norfolk hospitals during the five days of the drive. 574 persons were tested by the auto analyzer and 385 of these were also tested by the Dextrostix. The presence or absence of diabetes was determined by the attending physician. The follow-up on this group of patients was inadequate. No definite conclusions could be made concerning the value of the Dextrostix. Twenty-seven new diabetics were discovered in the total hospital group.

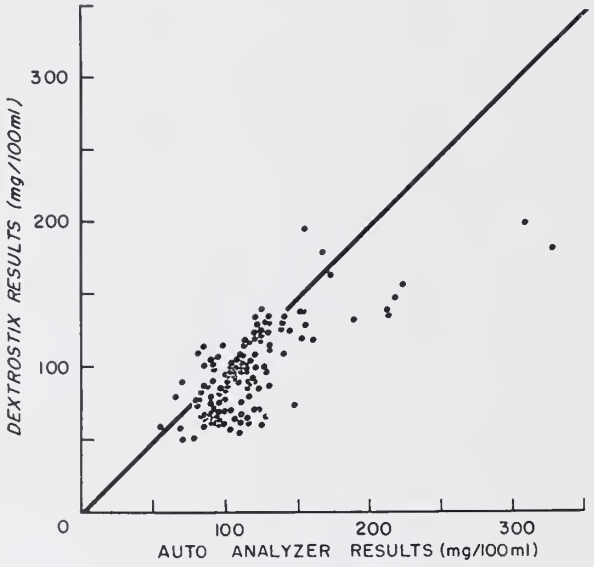


Fig. 1. Comparison of 138 consecutive blood sugar tests from one hospital laboratory.

Figure 1 compares the results of the Dextrostix and the auto analyzer in 138 consecutive tests in one of the four hospitals on days 2, 3, and 4 of the drive. Most of the results fall within an error of ± 30 mg/100 ml. Some, however, especially in the critical range of 100 to 150 are beyond this degree of variation.

There was a somewhat closer correlation of the tests performed in the private laboratories than in the hospital laboratory. The results, however, again show too great a variation in the critical 100 to 150 mg/100 ml. range for accurate blood sugar determinations.

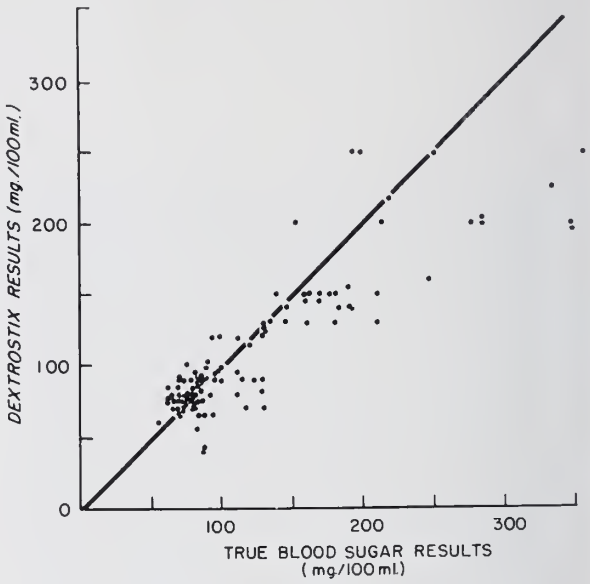


Fig. 2. Comparison of 145 consecutive blood sugar tests from three private physicians' laboratories.

Conclusions

1. Under the conditions of this study, the Dextrostix and the Clinitron appear to be relatively equal in their ability to detect diabetes. Both tests detected diabetes in persons who would otherwise have been undetected.

2. The convenience in the use of the Dextrostix and its ability to provide a blood sugar determination in two minutes is a decided asset.

3. The advantage of performing two tests simultaneously in diabetes detection drives was demonstrated. 28 diabetics were detected when both tests were used as compared with 22 for the Clinitron only and 20 for the Dextrostix only.

4. The error of 30 mg/100 ml. inherent in the Dextrostix test makes it an unsuitable test for critical office and hospital practice.

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Lactic Acidosis

A Case Treated with Tham and Hemodialysis

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A case of this dangerous type of acidosis has been treated successfully. The condition and methods of treatment are discussed.

IN MOST ACIDOTIC PATIENTS, the elevated plasma hydrogen ion concentration is attributable to renal failure (uremia or renal tubular acidosis), pulmonary inadequacy with hypercapnia, uncontrolled diabetes mellitus with ketonemia or the ingestion of substances which are themselves hydrogen ion donors (e.g., ammonium chloride) or which are metabolized to hydrogen ion donors (methanol, ethylene glycol, rarely paraldehyde, etc.). In recent years the excessive accumulation of lactic acid has been recognized as an important, if relatively infrequent, cause of a usually severe, and often fatal, form of acidosis. In this report we shall discuss current concepts of pathogenesis, diagnosis and treatment of lactic acidosis, together with an illustrative case recently referred to us.

Pathogenesis

Lactic acid, a normally occurring product of carbohydrate metabolism, exists with pyruvic acid in an equilibrium, favoring the former, which is dependent upon (a) the quantity of pyruvate extant at a given moment, and (b) the oxidative generation of diphosphopyridine nucleotide (DPN) by the flavoprotein (FAD) — cytochrome (cytochrome b, c, a) chain, primitively outlined in Figure 1. Failure of this oxidative chain because of, in the broadest sense, oxygen deficit, places the sole burden of the generation of DPN, necessary to other reactions, upon the conversion of pyruvate to lactate.

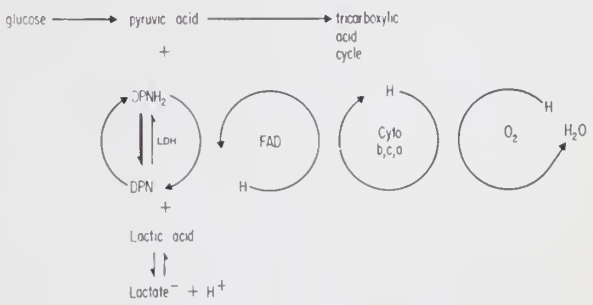


Fig. 1. Relationship of Lactate to Oxidative Chain and *DPN* Generation.

FAD is flavoprotein, Cyto is cytochrome oxidase, H is molecular hydrogen and LDH is lactic dehydrogenase.

Fig. 1

In the former situation (a), "physiologically" occurring with moderate hyperventilation and with infusion of pyruvate, glucose or bicarbonate[1], pyruvate and lactate concentrations increase modestly and proportionally. In the latter circumstance (b), typified normally by muscular exertion, a transient "oxygen debt" accrues

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which leads to an increase in lactate concentration disproportionate to that of pyruvate. This is termed "excess lactate" by Huckabee, whose derivative equations are presented in Figure 2.

Derivation of "Excess Lactate" (after Huckabee)

LDH

1. pyruvic acid + $DPNH_2 \rightleftarrows$ lactic acid + DPN
2. (pyruvate) x $(DPNH_2)$ = K (lactate) x (DPN)
3. $(lactate)_n - (lactate)_o = (pyruvate)_n - (pyruvate)_o \times K \frac{DPNH_2}{DPN}$
4. $(lactate)_n - (lactate)_o = (pyruvate)_n - (pyruvate)_o \times L_o/P_o$
5. $XL = (L_n - L_o) - ((P_n - P_o)(L_o/P_o))$

LDH = lactic dehydrogenase. K is the equilibrium constant. The subscripts $_o$ and $_n$ refer to concentration of substrate under normal (control) and abnormal condition respectively. XL is excess lactate.

Fig. 2

A number of pathologic circumstances have been associated with the accumulation of such large quantities of lactic acid that severe acidosis ensues (Table I). In its primary form,[2] no specific pathogenetic aberration has been defined; it is possibly always fatal, and may represent occult failure of tissue perfusion, uncoupling of oxidative phosphorylation and/or collapse of hepatic lactic acid disposal.

Table I

Situations Associated with Lactic Acidosis

I. Primary—"spontaneous," idiopathic (2)
II. Secondary—
  1. Inadequate circulation ("shock") (3)
     a. burns, hemorrhage, etc.
     b. "endotoxin"
     c. severe cardiac failure
     d. cardiopulmonary bypass with inadequate perfusion
     e. excessive pressor amine therapy
  2. Hypoxemia, acute and severe
  3. Chemical—
     ASA (4) ethanol + "starvation" (6)
     CN- thiamine deficiency + glucose load (7)
     methanol (5) DBI—role of hypotension? (9, 10)
  4. Sustained pathologic or mechanical hyperventilation (8)

Secondary lactic acidosis related to circulatory failure and/or severe hypoxemia with resultant inadequate tissue oxygenation is readily understandable.[3] Chemical agents are incriminable through a variety of mechanisms, some of which are poorly defined.[4-7] Marked hyperventilation with severe hypocapnia has been found to cause severe acidosis, probably through increasing peripheral resistance and diminishing tissue blood flow.[8] The hypoglycemic effects of phenformin (DBI) in the diabetic patient, perhaps attributable to inhibition of aerobic glycolysis through inhibition of oxidative phosphorylation with resultant shift to anaerobic glycolysis, provides a setting which might well predispose toward lactic acidosis and, indeed, this association has been described.[9-10] Hypotension seems an important concomitant, as may be renal failure with impaired phenformin excretion.[11] Dissenting votes have been cast, however.[12]

Diagnosis

Clinically, lactic acidosis should be suspected in any patient who, in one of the contexts mentioned, develops progressive obtundity and hyperpnea. Acidosis, usually profound and rapidly progressive, is manifested by decreasing plasma bicarbonate ("CO_2") and pH. The "unmeasured plasma anion" concentration ($Na - (CO_2 + Cl)$), which normally approximates ten to twelve milliequivalents per liter, will be found to be increased due to lactate ion, and the absence of significant ketonemia or azotemia will exonerate diabetes or uremia. The attempt to correct the acidosis with amounts of intravenous bicarbonate usually at least transiently effective in other forms of acidosis will probably be inadequate. An arterial lactate concentration approximating the bicarbonate deficit confirms the diagnosis. Affirmation of the presence of "excess lactate", while conceptually of importance, is not necessary for the diagnosis, since a large amount of lactate, "excess" or otherwise, is nonetheless a potent hydrogen ion donor.

Case Report

FEW, a 67-year-old woman, had been a

known diabetic for many years, poorly controlled with conventional use of insulin. Four years ago, treatment was commenced with phenformin (DBI) 25 mg. t.i.d., with great improvement in the control of her diabetes. After several months of known hypertension, on October 6, 1964, she abruptly developed acute pulmonary edema and was promptly hospitalized—her blood pressure was 230/100. Electrocardiogram did not reveal evidence of myocardial infarction, but serum lactic dehydrogenase was slightly elevated. Blood urea nitrogen and CO_2 combining power were normal on admission.

On the fourth day, she was noted to be nauseated and hyperpneic. That morning her plasma CO_2 was 19 mM/L. That afternoon, blood pressure fell to 70 systolic; she received pressor amine therapy, and her plasma CO_2 was 13 mM/L. There was no bonate. Pertinent findings are noted in Table II and, graphically, in Figure 3.

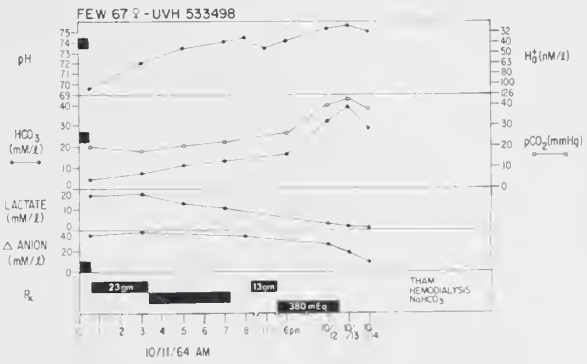


FIG. 3

Upon her arrival, and after the severity of her acidosis had been ascertained, an infusion of 0.3 M. THAM at approximately 1.1 mM/min. was started with significant correction of arterial pH by the beginning of hemodialysis. During the four hour dial-

TABLE II

Date Time	pH	pCO_2 mm Hg	HCO_3	Δ*	L†	P†	XL	BP	BUN mg%	Clinical Status and Treatment
					mM/L.					
10-10										
AM			19					70 ?	60	nausea, hyperpnea
4 PM			13‡						69	obtunded—metaraminol and $NaHCO_3$ 18 mM/hr.
9 PM			12							norepinephrine 4 ug/min added
10-11										
12 AM	6 96	20	4 4	36	16 7	0 09	15 8	90/50	84	shock, hyperpnea, obtunded 23 gm. THAM (1.1 mM/min added)
3 AM	7 20	18	7 0	40	17 4	0 07	16 7	90/50		Dialysis bugun
5 AM	7 34	20	10 7		12 4	0 17	10 7			1500 ml blood infused, pressors withdrawn
7 AM	7 40	22	13 4		10 1	0 15	8 6	120/70		Speaking coherently, dialysis discontinued
8 AM	7 45									
11 AM	7 34									13 gm THAM (0.5 mM/min.) followed by 380 mM $NaHCO_3$ 16 mM/hr. for 24 hours
6 PM	7 41	26	16							
10-12										
9 AM	7 53	40	32	26	2 8	0 14	1 4	140/80		Drowsy but fully responsive. $NaHCO_3$ discontinued
10-13										
9 AM	7 56	43	39	18	1 3	0 15	0			Out of bed, eating, comfortable
10-14										
9 AM	7 50	38	29		0 6	0 13	0			

*"Unmeasured serum anion" concentration.
†Normal ranges in our laboratory: lactate 0.3-0.5 mM/L., pyruvate 0.04-0.09 mM/L.
‡Serum and urine ketones "negative."

ketonemia or ketonuria. In the ensuing several hours she received 90 mEq. of sodium bicarbonate intravenously, following which her plasma CO_2 was 12 mM/L. During transfer to the University Hospital she received a further 60 mEq. of sodium bicarysis blood pressure remained low until 1500 ml. of blood (in excess of dialyzer prime) was infused, after which pressors were successfully withdrawn; acidosis was completely reversed and the patient's appearance improved. Later that day THAM in-

fusion was resumed, followed by sodium bicarbonate, which was discontinued 24 hours later. The induced alkalosis was self-correcting. Bacteriuria, probably related to an indwelling catheter, responded to nitrofurantoin; mild occult gastrointestinal bleeding, for which no etiology could be found, ceased and the patient was discharged well, taking a small amount of NPH insulin.

Comments

A number of factors seem to have contributed to this patient's acidosis. Phenformin therapy, circulatory insufficiency related to congestive heart failure and, in view of her need for and tolerance to a large quantity of blood, volume depletion are probably together incriminable. The severity of the oxidative block is attested to by the normal pyruvate concentrations on admission. Its magnitude, in terms of lactic acid load, approximated 570 mM., or the equivalent of over 30 grams of ammonium chloride.

The contribution of each therapeutic modality employed, discussed subsequently, is unclear. It is of interest that the change in her total lactate during dialysis (changes in blood lactate concentration X total body water = 260 mM.) exceeded lactate recovered in the dialysate (215 mM.). Ignoring possible inaccuracy in the latter, this suggests net extra-dialyzer lactate disposal and reversal of the fundamental abnormality. While the post-dialysis alkalosis was in part iatrogenic, lactate metabolism contributed up to 325 mM. of bicarbonate (equation 1)

$$Na^+ + \text{lactate}^- \xrightarrow{H_2O,\ O_2} NaHCO_3 + CO_2\uparrow$$

(equation 1)

in the 48 hours following dialysis.

Therapy

Of immediate importance is provision of adequate amounts of H^+ buffers to reverse, and if possible correct, the acidosis. Sodium lactate is not a logical source of buffer in this situation.[13] Not harmful in itself, it must be metabolized to HCO_3^- (equations 1 and 2) to be effective and, obviously, lactate disposal mechanisms are already overwhelmed. Sodium bicarbonate is as readily available and instantly neutralized H^+ with which it comes in contact without metabolic conversion (equation 2).

$$H^+ A^- + NaHCO_3 \rightarrow Na^+ A^- + (H_2CO_3 \rightarrow H_2O + CO_2\uparrow)$$

(equation 2)

Adequate erythrocyte transport and pulmonary CO_2 disposal are necessary to its full effectiveness. It may not, however, provide sufficient intracellular buffering.[14]

THAM (tris-hydroxymethyl aminomethane), an amine buffer of demonstrated potency and clinical usefulness,[15] diffuses throughout body water rather readily, and may have a desirable effect through its intracellular buffering capacity. Additionally, it is effective in the presence of pulmonary failure, as CO_2 is not an eventual product of its reaction with H^+, and it acts as an osmotic diuretic, thus possibly being of benefit in forestalling acute tubular necrosis in the hypotensive oliguric patient. Of possible detriment is its demonstrated ability, independent of insulin effect, to promote the transport of glucose into cells,[16] thereby potentially increasing lactic acid production; there are as yet no data bearing directly on this conjecture, however.

Concurrent with buffer therapy, efforts directed at detecting and correction of the physiologic abnormality responsible for hyperlactic acidemia should proceed. Provision of an adequate effective circulating volume is mandatory, and may require large amounts of crystalloid fluids, plasma or Dextran, or whole blood. Saline is not desirable, as the Cl^- is hereby useless and could better be replaced by HCO_3^-. One liter of 5% dextrose in water to which is added four ampules of sodium bicarbonate (44.5 mEq/ampule) yields a solution of, after metabolism of the glucose, 296 mOsm/L.

which provides isosmotic volume expansion and copious buffer capacity simultaneously. Individual patient needs will require altering this proportion, of course.

Myocardial insufficiency requires judiciously vigorous use of digitalis, as low cardiac output may be an important contributor into inadequate peripheral perfusion. Excessive pressor amine therapy is to be avoided, even at the expense of low blood pressure, so long as coronary and cerebral perfusion are adequate. These drugs may themselves so impair peripheral blood flow that lactic acid production is perpetuated, a high price to pay for the comfort of a "normal" sphygmomanometric reading.

Adequate ventilation and oxygenation are also vital, the former because of its great importance as a means of compensating the acidosis (and permitting infused HCO_3^- to function effectively) and the latter for obvious reasons.

Drugs or toxins which may be etiologic should, of course, be discontinued and if possible removed.

Overly enthusiastic mechanical hyperventilation with severe hypocapnia should be corrected so as to restore pCO_2 toward normal. This must be done slowly and in conjunction with other measures and appropriate monitoring, to avert critical worsening of acidosis—doubling the pCO_2 without change in bicarbonate concentration will lower the arterial pH by 0.3 units.

Hemodialysis has several potential virtues in this situation. Anionic lactate is not the keystone of the problem—but simply a symptom and an accompaniment to important H^+. While lactate dialysance (dialyzer "clearance") is brisk, this in itself is unimportant—at pH 7.0 only 0.07 percent of the lactate removed will exist as lactic acid (with its H^+). Dialysis does provide the infusion (from bath to patient) of large amounts of HCO_3^- (unfortunately not quantitated in our patient) without risk of fluid overload, aids in the correction of coexistent fluid and electrolyte abnormalities (hyper- or hypokalemia, hyponatremia, etc.), and will remove significant quantities of certain drugs here important (such as salicylate[17] and methanol.[18] Ewy, et al.,[11] employed bicarbonate, glucocorticoids and hemodialysis in treating a much less severely acidotic but oliguric insulin resistant diabetic with advanced peripheral vascular insufficiency who was taking phenformin. Lactic acidosis receded, but the patient died of myocardial infarction.

Peritoneal dialysis is not expected to be effective for several reasons—commercial fluids contain as their bicarbonate source Na lactate; it is less than optimally rapid in removing dialyzable drugs; and it provides less adequate control over fluid balance than does hemodialysis.

Lastly, mention should be made of another therapeutic modality still investigational but perhaps in the vanguard of another approach to this disorder. Just as the systemic acidosis is due to excess H^+, so, in a more fundamental sense, is the disorder due to failure of hydrogen to be carried along the oxidative chain (Figure 1). Recent studies have demonstrated that methylene blue, an agent capable of oxidizing $DPNH_2$ to DPN, exerts a favorable effect in patients with lactic acidosis.[19] In essence, methylene blue assumes the function (insofar as DPN is concerned) of the oxidative chain although, of course, it does nothing to reverse the cause of the oxidative failure and hence is only symptomatic therapy at the molecular level.

Summary

Lactic acidosis may develop in a number of clinical situations or, within limits of our present understanding, spontaneously. Alert interpretation of the findings outlined will permit its early recognition, following which well planned, intensive and multifaceted therapeutic measures must be instituted. Despite this, mortality will probably remain high until further understanding and more specific treatment is developed.

Acknowledgment

With pleasure we express our appreciation to Miss Alice G. Rhodes, whose technical assistance has been invaluable. THAM was supplied as Talatrol®, by Robert L. Alberti, M.D., Abbott Laboratories, Chicago, Illinois.

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How to Beat the Antivivisectionists

When it comes to combating the tearful testimony of the various antivivisectionist groups we may be required to become just as emotional by using the testimony of grateful people who now live because of the contribution animals have made to medical knowledge. We must not be complacent. This is the year for the antivivisectionist—unless we combat emotions with truth.—Daniel B. Powell, M.D., in *Texas Medicine* (62:27-28) February, 1966.

Oral Therapy for Diabetes Mellitus

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Oral agents are effective in the treatment of many diabetics. Cases must be selected, however, if failures are to be avoided.

SINCE THE INTRODUCTION of oral hypoglycemic therapy in 1956 we have used these drugs in the treatment of over 1000 diabetic patients. The results obtained have been analyzed at yearly intervals in an effort to evaluate the effectiveness of this form of treatment. This report is based upon the information obtained in these studies.

Sulfonylureas

The three sulfonylurea derivatives are tolbutamide,* acetohexamide,** and chlorpropamide.*** Chemically they are closely related and their pharmacological action is identical. Because of different rates of excretion there are significant differences in potency, dose, and cost to the patient. The sulfonylurea drugs increase the rate of insulin release from the pancreas. In nondiabetics there is a prompt and intense fall in the blood sugar level. In patients with mild diabetes the blood sugar fall is slower and less intense. In patients with severe diabetes there is no change in the blood sugar. These drugs are useless in diabetic patients who develop ketosis when insulin is withheld. One-fourth of the older patients and almost all of the younger diabetic patients are in this group that does not respond to the sulfonylurea drugs. Patients who have the classical symptoms of polyuria, polydypsia, weakness and weight loss usually require insulin for treatment.

The minimal, maximal, mean and average dose of the sulfonylurea drugs is shown in Table I. Because of the delayed excretion of chlorpropamide there is increased potency, with improved diabetic control, decreased failure rate, and decreased cost to the patient. Tolbutamide has the most rapid excretion, the highest rate of secondary failure, the poorest diabetic control and the greatest cost to the patient. Acetohexamide is intermediate between these two. The blood half-life of tolbutamide is six hours, acetohexamide eight hours, and chlorpropamide thirty hours. This permits the entire daily dose of chlorpropamide to be given at one time. In order to maintain a stable blood concentration the other two drugs must be given in doses divided into two or three parts each day.

TABLE I

COMPARISON OF DOSE OF SULFONYLUREA DRUGS IN MILLIGRAMS

Medication	*Minimal*	*Mean*	*Average*	*Maximal*
Chlorpropamide	50	250	363	750
Acetohexamide	250	1000	1000	2000
Tolbutamide	250	1500	1680	3000

In our series there was primary failure to respond to each drug in about one-fifth of the patients treated. In those who were controlled there was little difference in the blood sugar level, but there were more patients with excellent control in the chlorpropamide treated group.

The natural history of diabetes predicts the occurrence of a gradual increase in

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*Orinase®—Upjohn
**Dymelor®—Lilly
***Diabinese®—Pfizer

severity. The point is eventually reached where it is impossible to achieve normoglycemia with the maximal dose of any sulfonylurea drug. The patient is then classified as having secondary failure to respond and some other form of treatment is instituted. In our series the incidence of secondary failure in the tolbutamide treated patients averaged one per cent of the patients under treatment in any one month. In the chlorpropamide treated patients the rate was approximately half this. The acetohexamide series is too small to have valid figures at this time. We found that one-fourth of the tolbutamide secondary failures would respond to chlorpropamide. Only rarely did chlorpropamide secondary failures respond to tolbutamide.

All three of these drugs may produce such side effects as reactivation of peptic ulcer and allergic dermatitis. These symptoms cleared on cessation of therapy. In three patients with pre-existing liver disease there was a deterioration of liver function and the development of cholestatic jaundice after chlorpropamide. This cleared after the drug was discontinued. Hypoglycemia may occur if excessive dosage is given to patients with mild diabetes. Usually these symptoms are mild and can be corrected by a reduction in dosage. We encountered hypoglycemia with coma on the third day of treatment in two patients who received full doses of tolbutamide. During the sixth week of treatment with 500 milligrams of chlorpropamide per day one patient developed hypoglycemia that was severe enough to cause a fatal automobile accident. This patient had been seen one week after chlorpropamide was started and had an appointment to be seen two weeks later but he did not keep this appointment. With the proper follow-up of new patients and the use of small doses hypoglycemia should never be a problem.

It has been suggested that the sulfonylurea drugs could be used in addition to insulin to stabilize "brittle-diabetics". In our experience the sulfonylureas were no more effective than placebos in these patients. The beneficial results obtained by others were due to the reduction of an excessive insulin dose when the sulfonylurea drugs were started. This eliminated hypoglycemia and therefore the patient had less rebound-hyperglycemia.

Phenformin

Phenformin is a different type of chemical compound, has a different mode of action, and is effective in patients who do not respond to the sulfonylurea drugs. Phenformin does not increase insulin production, but does increase the efficiency of insulin by increasing glucose utilization in the muscle cells. Phenformin has no significant effect upon the blood sugar in patients who do not have diabetes, but does lower the blood sugar of all diabetic patients if a large enough dose is given. Excessive doses of phenformin cause the side effects of metallic taste, anorexia, nausea, vomiting, abdominal pain, diarrhea, malaise, and weight loss. These effects are readily reversed by reduction in dose or cessation of the medication. There is a narrow margin between the effective therapeutic dose and the dose that produces side effects.

Phenformin is effective in many maturity onset patients who do not obtain satisfactory control with the sulfonylurea drugs. When used in combination with a sulfonyluria drug there is often improved control in patients who do not obtain excellent control when either is used alone.

There was an average weight loss of one pound per month in our phenformin treated patients. Such weight loss is encountered with no other method of treating diabetic patients except starvation. This is therefore the drug of choice for the treatment of obese patients. Effective control in these patients requires meticulous adjustment of the dose so that severe side effects are avoided. The average dose is about one milligram per pound of body weight, but it is

necessary to start with a dose one-fourth this amount and gradually increase it to the point of tolerance. We usually use the fifty milligram "time-dispersal" capsule instead of the twenty-five milligram tablets because of the lower incidence of side effects and greater convenience to the patient.

Diabetic Complexities

As long as excellent diabetic control is maintained there is no problem in using the oral drugs in surgery, pregnancy or acute infection. All of these conditions cause increased insulin requirements and it may be necessary to use insulin in addition to or instead of oral drugs during the period of stress. Poor diabetic control should not be tolerated in any patient because of the reluctance to use insulin instead of oral drugs.

We have not seen any acceleration of the degenerative complications of diabetes in patients treated with these drugs. We have seen occasional patients who had improvement of diabetic neuropathy and retinopathy after the diabetes was controlled with oral drugs.

In summary the oral hypoglycemic drugs are effective in maintaining excellent diabetic control in many patients who develop diabetes in later life.

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Suicides and the Weather

Does a change in the weather cause some disturbed people to commit suicide? The question has long been controversial, and much of the evidence seems satisfactory.

When 527 suicides in Philadelphia were studied, these things were noted:

Significantly more than the expected number of deaths were associated with daily barometric pressure changes of 0.35 inches or more, particularly with falling pressures.

White males under age 45 and nonwhite males of all ages were the groups which showed a significant association between suicides and weather change.

Significantly fewer than the expected number of suicides occurred when atmospheric pressure was between 29.80 and 30.20 inches and the relative humidity was between 60 and 95 per cent.

An editorial in the March 14th Journal of the American Medical Association points out that "it is difficult to determine the influence of meteorological changes on specific diseases; it is even more difficult to determine the relationship between weather and suicides."

The authors are Edward Digon, M.Ph., and H. Barrett Bock, M.S., of the Division of Biostatistics, Pennsylvania Department of Health, Harrisburg. Their report appears in the March issue of the Archives of Environmental Health, published by the AMA.

Treatment of Diabetes in the Adult Patient

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Diabetes can be controlled when both patient and physician give careful attention to the problem, using diet, exercise, and insulin or oral agents with day to day uniformity, and remaining alert for changes.

IT IS PERMISSIBLE to classify diabetes into two types, growth-onset and maturity-onset, since the significance of these terms is well understood. However, it is important to use the word "type" in this connection because diabetes which is discovered in adult life is by no means always of the stable variety characteristic of the maturity-onset type. Furthermore, as a result of the large surveys which have been carried out in recent years among persons of all ages in the general population, there is an increasing awareness of the fact that in a significant, albeit small, percentage of cases, diabetes found in young people may be asymptomatic and of the "maturity-onset type". In the present discussion, management of the adult with diabetes, both stable and unstable, will be outlined.

Presented in substance in the Symposium on Diabetes Mellitus sponsored by the Virginia Diabetes Association at the 13th Annual Scientific Assembly of the Virginia Academy of General Practice, Hot Springs, March 26, 1965.

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In the handling of diabetes by presently available means, a basic concept is that good management always involves the use of insulin. Generally speaking, treatment may take one of three forms: (1) restriction of diet alone; (2) diet plus oral hypoglycemic agents; and (3) diet plus injections of insulin. However, in those persons with "mild" diabetes in whom dietary restriction alone suffices, one is simply reducing the metabolic load to that level at which endogenous insulin will be adequate to meet body needs. In persons responsive to oral hypoglycemic agents, one is either stimulating the release of additional endogenous insulin, as with the sulfonylureas, or supplementing or potentiating its action, as with the biguanides.

Treatment of Stable Diabetes

Initiation of Treatment. Treatment of the adult patient with stable diabetes should begin with the following steps:

1. Establishing a firm *diagnosis.* If this is not provided by random tests of urine and blood for sugar, then one obtains similar tests one hour after a meal liberal in carbohydrate or after a sweetened drink containing 50 gm. of glucose. If the results are still not conclusive, a formal glucose tolerance test should be done. Early diabetes is best discovered by attention to the blood sugar one hour after food or glucose, regarding as diabetic a "true glucose" value in venous blood of 160 mg. per cent or higher.

2. Outlining a definite *diet,* explaining to the patient what to eat rather than simply what to avoid. Intelligent, receptive patients will profit greatly from the knowledge gained in a preliminary period of a few weeks in which food is weighed on gram scales. This provides training in simple

scientific procedures. Others will do well by use of household measures. Instruction should be given in food equivalents and in the substitution of one article of food for another. In this connection the A.D.A. system of "Meal Planning with Exchange Lists" is helpful, provided the diet lists and booklet are accompanied with careful instruction.

3. Teaching the patient how to test the urine for sugar. He should be instructed to keep a record of his tests at home in tabular form, preferably in a notebook and to bring this with him at visits to his private physician or out-patient clinic.

4. Instruction of the patient and his family in the basic facts regarding diabetes and its treatment. Such education should be continued at subsequent visits. The patient should be told of the possible complications of diabetes and how to avoid them. Instruction should be given in the care of the skin and of the feet, what to do on a day of illness, etc.

General Plan of Management. Fortunately, in middle-aged and elderly persons, diabetes is usually of stable nature. Tendency to obesity and relative insensitivity to injected insulin are characteristic of such patients. Although they can and do develop ketoacidosis, they are not, in a relative sense, "ketosis-prone". The term "insensitivity to insulin" does not imply unresponsiveness but rather that the blood glucose is not overly labile and does not fall sharply following the injection of insulin or the taking of unusual exercise. Hence the treatment of diabetes in this group of patients is not difficult provided the patient is interested and cooperative and will follow closely a well-planned diet. If the patient's symptoms are not severe and he is not acutely ill, the first step is to treat by means of a restricted diet alone. This is particularly true if the patient is overweight since one does not want to be in the position of supporting obesity by means of insulin or oral hypoglycemic agents. If dietary restriction alone proves inadequate, then oral hypoglycemic agents or insulin are indicated. One should unhesitatingly turn to insulin if truly adequate control of diabetes cannot be obtained by other means.

Diet Prescription. The diet should be restricted in carbohydrate and in calories to the extent necessary to bring and keep the body weight at a level desirable for age, height and body build. Diets useful in the treatment of most middle-aged and older patients are indicated below.

	Grams Daily	*Calories*
Carbohydrate	150-200	600-800
Protein	60-100	240-400
Fat	60-100	540-900
Total		1380-2100

The aim of the prescription is to provide a diet which is restricted in carbohydrate, adequate in protein, minerals and vitamins, with fat and total calories set at such a level as to promote desirable body weight. The protein allowance is considered adequate if it provides 2/3 to 1 gram per kilogram of ideal body weight. Insofar as practicable, fat should be of polyunsaturated type.

Many diet prescriptions will lie outside the average figures given above. For obese patients the diet might provide only 800-1,000 calories daily. A 1,010 calorie diet would be furnished by 120 gm. carbohydrate, 65 gm. protein and 30 gm. fat. For the man engaged in physical labor, the diet might allow as much as 250 gm. carbohydrate, 140 gm. protein and 140 gm. fat, yielding 2,820 calories.

Oral Hypoglycemic Agents. This type of treatment is the subject of another paper in this Symposium and so will not be discussed in detail here. However, two items appear worthy of mention.

1. *Standards of Control.* One should have definite criteria of control and make every effort to attain the best results possible. All too often patients are continued for long periods on oral hypoglycemic agents despite poor control. The following standards have proved useful and workable: Using blood

glucose values obtained before breakfast, before the noon meal and in the mid- or late-afternoon, GOOD control is present if 70 per cent or more of such values are 110 mg. per cent or lower and FAIR control if 70 per cent or more are 130 mg. per cent or lower. In either instance, the urine will be free from sugar or nearly so. All other results are classed as POOR and attempts made to shift the patient to insulin.

2. *Guiding Principles.* The principles listed below will be found helpful in treating patients with oral hypoglycemic agents.

(1) In overweight patients with "mild" diabetes, give dietary restriction adequate trial before use of oral hypoglycemic agents.

(2) In patients already on insulin, use great care in the attempted transition to an oral compound.

(3) While on oral agents, insist on uniformly sugar-free urine and normal or near-normal blood glucose levels.

(4) Provide careful and continuous observation of patient for an indefinite period, insisting on close adherence to diet.

(5) Shift promptly to insulin if, despite diet restriction, hyperglycemia and glycosuria cannot be controlled.

Insulin. Adult patients with stable diabetes who require insulin by injection may often be well controlled by a single dose of isophane (NPH) or lente insulin daily before breakfast, with or without an accompanying dose of regular (crystalline) insulin given in the same injection. The principles of insulin treatment will be outlined in the discussion which follows. Although regulation is simpler and more easily attained in stable diabetes, the methods are similar to those used in the unstable type.

Treatment of Unstable Diabetes

Although unstable or "brittle" diabetes usually occurs in those patients with onset of diabetes in the first three decades of life, it is present in many whose diabetes made itself manifest after the age of 40 years. Such persons are usually of average or below-average weight and often are emotionally labile. Their blood glucose rises easily following food or glucose as well as during infections and emotional stress. On the other hand, the blood glucose is extremely sensitive to injected insulin and to physical exercise. Patients with unstable diabetes are insulin-dependent and ketosis-prone. The rapid, and at times unpredictable, shift in blood glucose levels together with frequent episodes of hypoglycemia are disturbing to the patient and his family and frustrating to the physician.

Causes of Unstable Diabetes. In considering the causes of unstable diabetes one must differentiate between primary instability and a condition resulting from various influences, often temporary and often correctible. For example, infections and thyrotoxicosis are conditions which may influence diabetes unfavorably and cause instability. If treatment is poorly planned or poorly carried out, apparent instability of diabetes with a high insulin requirement, may result. Instability of diabetes may appear related to the emotional lability of the patient. Erratic behavior of the blood glucose may result from giving insulin in overly large amounts or at the wrong time of day. Somogyi[1] has called attention to the "hyperglycemic rebound" which may result from hypoglycemia. In his opinion, the giving of excessive amounts of insulin with the production of hyperglycemic episodes, at times asymptomatic, is responsible for the instability of diabetes in a large percentage of patients. However, after careful consideration of data available, it is the writer's opinion that the hyperglycemic rebound phenomenon is not an important factor in this regard.

What then is the cause of unstable diabetes? It is the belief of the writer that the basic cause is a complete or nearly complete lack of endogenous insulin production by the patient, with disruption of the normal homeostatic mechanism. There is circumstantial evidence that persons with unstable

diabetes lack the capacity for endogenous insulin production. When the pancreases of patients with onset of diabetes during early life are examined for insulin content following death after many years of diabetes, little or no insulin is found. Furthermore, in such patients little or no insulin can be found in the blood during life if diabetes has been present for five or more years. Finally, these are the persons who are unresponsive to sulfonylurea compounds, whose action depends upon the ability of the pancreas of the patient to produce and release insulin.

One has therefore a situation in which there is complete dependence upon exogenous insulin. The task of the physician is to supply insulin by injection in the right amount and at the right time throughout each 24-hour period, thereby preventing glycosuria and maintaining at a normal level the blood glucose and underlying metabolic processes. One strives to mimic nature and, of course, succeeds only imperfectly.

Treatment of Unstable Diabetes. In the management of patients with unstable diabetes, complications such as infections and thyrotoxicosis should be discovered and treated, if present. Overdosage with insulin and the production of frequent, severe or prolonged insulin reactions should be carefully avoided. Emotional problems should be treated in the best possible way. However, the most important principle of treatment is to supply food, insulin and physical activity as evenly as possible throughout the day, so as to minimize, insofar as possible, tendencies both to hyper- and hypoglycemia. Management is based on the attempt to secure uniformity of effect of the controllable factors which influence blood glucose. These controllable factors include diet, insulin and physical exercise. One must attempt to provide each of these three items in the type, amount and distribution which proves to be best for the individual patient.

The diet should be reasonably constant from day to day and provide not more than 200 gm. of carbohydrate a day. Food should be distributed throughout the waking part of the day with snacks taken regularly in the mid-morning, mid-afternoon and at bedtime. In the calculation of the day's diet, the food taken at snacks is included.

Persons with unstable diabetes invariably require daily injections of *insulin*. Various insulin programs are possible but one which is usually successful includes the giving of the major portion of the day's insulin in the form of the NPH (or lente) type, with or without an accompanying small dose of regular (crystalline) insulin in the same syringe, and then a second and smaller dose of NPH (or lente) insulin in the evening, usually at bedtime (so-called "split dose" of insulin). The "anchor" dose is that of the NPH type before breakfast. In the initiation of treatment, one finds first that dose of NPH insulin which, given before breakfast, results in satisfactory blood and urine tests in the late afternoon. In the person with unstable diabetes, despite satisfactory tests before supper, the fasting blood sugar the following morning may be high. This problem may be attacked effectively by giving at bedtime a small dose of NPH insulin, often only 4-8 units. Finally, if amounts of NPH insulin, morning and evening, are found which bring about good tests before breakfast and before supper and yet the test just before the noon meal is poor, a small dose of regular insulin is given in the morning before breakfast in the same injection with the NPH variety.

If the tests before the three meals are good, then usually the bedtime test of urine will likewise be satisfactory. Small amounts of sugar in the urine at this time may be acceptable. If, however, the bedtime test shows truly large amounts of sugar, indicating wastage of much of the carbohydrate taken at the evening meal, a useful maneuver is to give the evening dose of NPH insulin before supper. This allows for the inclusion in the syringe of a small dose of regular insulin. Having done this, one reg-

ulates the dose of NPH insulin before supper by means of the fasting blood and urine tests and the dose of regular insulin before supper by the bedtime tests.

In the adjustment of insulin dosage, increases or decreases are usually made two units at a time, allowing two or three days between successive changes. The procedure is relatively simple to carry out and is easily learned by intelligent, interested patients. It must be emphasized that changes in insulin dosage ordinarily will not be made frequently and certainly not on the basis of a single poor test but rather according to the general trend of the outcome of tests at a given time of day. In this connection it is extraordinarily helpful if the patient keeps a record of his urine tests at home in tabular form so that at any time an impression may be maintained at a glance as to the degree of control of diabetes at a given time of day.

In Table I are summarized the urine or blood tests which are of most significance in indicating needed alterations in the insulin doses.

Table I

Guide to Adjustment of Insulin Dose According to Outcome of Blood and Urine Glucose Tests**

Insulin		urine or blood glucose test (or, conversely, hypoglycemic reactions) serving as best indexes of insulin dose			
Type	Time of administration	Before breakfast	Before noon meal	Before supper	At bedtime
Crystalline*	Before breakfast		X		
NPH (or lente)	Before breakfast			X	
Crystalline*	Before supper				X
NPH (or lente)	Before supper	X			
NPH (or lente)	At bedtime	X			

*Same as regular insulin.
**Adapted from an article by Marble.[2]

Exercise. Physical activity lowers the requirement for injected insulin and strenuous or unusual exercise may precipitate hypoglycemic episodes. This is particularly true in the person with unstable diabetes. Consequently, it is helpful if there is reasonable uniformity in physical activity from day to day. At times of unusual exercise, additional food should be taken in reasonable amount. If days of unusual muscular effort can be anticipated, an appropriate small decrease may be made in the insulin dose.

Biguanides. In a small percentage of patients with unstable diabetes, the addition of a biguanide to the treatment program will reduce the insulin requirement, and with such reduction, greater stability of the blood glucose level may be achieved.[3] Commonly, one gives a 50 mg. capsule of phenformin (DBI-TD) with breakfast and with supper. It must be stated unequivocally that in the person with unstable diabetes, a biguanide may be used only as a supplement to adequate insulin therapy and not as a chief therapeutic agent.

Summary

1. Although most adults with diabetes have the condition in relatively stable form, many have an unstable ("brittle") type with wide fluctuations in the blood glucose level and hard-to-manage diabetes. The number includes some of those with onset of diabetes over the age of 40 years as well as those whose diabetes began under the age of 30 but has been present many years.

2. In the treatment of stable diabetes, dietary restruction alone may suffice. If the patient is overweight and not acutely ill, treatment with diet alone should be given an adequate trial. In others, the addition of an oral hypoglycemic agent to the treatment program may bring about good control. If these measures fail, one should turn unhesitatingly to daily injections of insulin.

3. Unstable ("brittle") diabetes is considered to be due basically to total or near-total lack of capacity for endogenous insulin production. Such patients need insulin, usually in a "split dose" with a larger dose of intermediate-acting insulin (NPH or lente) before breakfast and a small dose at bedtime or before supper. Receptive patients should be taught how to make minor adjustments in dosage according to the general trend of urine tests.

4. The watchword in the treatment of unstable diabetes is reasonable uniformity from day to day. The type, amount and time of administration of the controllable factors—diet, insulin and exercise—should be adjusted carefully to the individual needs of the patient.

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Your Later Years—

If you're at retirement age or beyond, you probably worry a little about keeping up with life. Everyone at your age is properly concerned about maintaining his health and activity. A wise doctor developed these "rules for conduct" for his own life: First, he said, he realized that the mind often stays young and flexible after the body begins to get a bit stiff. So he concentrated on staying young by keeping his mind active. The doctor widened his friendships among young people. He said they shocked him occasionally, but he tried to understand their viewpoint. He learned to delegate authority. The doctor and his wife exchanged more strenuous amusements for those that taxed their strength less. They kept up their old friendships. And they found that these gradual adjustments helped them keep the good mental outlook that is important in keeping good health.

Cryoleucotomy: A New Procedure for the Control of Intractable Pain

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Control of pain may be of first importance in treating progressive, malignant or incurable disease. An effective neuro-surgical procedure associated with minimal side effects will be a welcome help in dealing with this difficult problem.

PHYSICIANS are frequently confronted with the problem of managing patients having severe, chronic, disabling pain. Suffering is often compounded by the awareness that the disease is progressive, malignant, or incurable. Addiction to narcotics is a common accompaniment.

Numerous neurosurgical procedures interrupting afferent impulses have been devised for relief of intractable pain. Too often, the nature and location of the lesion preclude the use of these operations. Although he did not report the case, Van Wagenen interrupted frontal white matter in a patient for the relief of pain in 1941. Later, Freeman and Watts[1] reviewed their experience with five patients having frontal lobotomy performed for control of pain refractory to other methods of treatment. They noted that the affective component of the pain was relieved. The patients, although aware of pain were indifferent to it, and no longer required narcotics. Personality changes were often severe, however, and created many problems for patient and family.

Grantham[2] noted that results in patients with intractable pain were just as satisfactory when only the medial white matter of the frontal lobes, rostral to the lateral ventricles. was destroyed. He devised an insulated probe for making fractional lesions with radiographic localization and attempted to map the lesions which would be effective for relief of pain without producing undesirable personality changes. The response of patients, nevertheless, remained unpredictable. The destructive lesions were produced by electrocoagulation and were irreversible. More recently, Cooper[3] presented a cryogenic method for physiologic inhibition as well as for production of destructive lesions in the brain. It is possible to ascertain the effect of an anatomic lesion by cooling tissue to physiologic inactivity before producing an irreversible lesion. Using a cryogenic unit*, we have performed limited bimedial frontal leucotomies in 3 patients, suffering from intractable pain, with gratifying results.

Method

The procedure is similar to that described by Grantham in 1951 with modifications allowing the use of a cryosurgical unit. Employing local anesthesia only, the patient's head is secured in a St. Barnabas Hospital head-holder. Two burr holes are made 9

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*Manufactured by the Linde Cryogenic Division of Union Carbide Corporation.

cm. above the glabella and 2 cm. from the midline. A Scott cannula is then introduced into the frontal horn of the right lateral ventricle, 15 ml. of cerebrospinal fluid are removed and replaced with the same quantity of air. Lateral and anteroposterior roentgenograms are then obtained. A Cooper cryogenic cannula, supported by a holder, is then positioned over the right burr hole, parallel to the midsagittal plane and aimed to pass 1 cm. rostral to the tip of the frontal horn of the lateral ventricle. A lateral roentgenogram is then obtained so that the proper path of the cannula can be determined. The cannula is then lowered through the frontal lobe until it strikes the floor of the anterior fossa, usually a depth of 7 to 8 cm. The cannula is withdrawn 2 cm. and a reversible test lesion produced by cooling the tip of the cannula to -10°C. A spherical lesion, 1.5 cm. in diameter, is then produced by cooling to -80°C for three minutes. The cannula is allowed to warm and is then withdrawn 1.5 cm. and a second lesion created. A third lesion is made in similar fashion 1.5 cm. above the second. Permanent lesions are always preceded by reversible test lesions. We have noted little or no euphoria or other personality changes after the production of three lesions on the right side. The cannula is then repositioned over the left burr hole and the procedure repeated. The patient is questioned during the production of the left-sided lesions until the proper effect has been obtained. All patients developed some degree of euphoria and apparent indifference to pain. As soon as the desired effect is obtained, the cannula is removed and the scalp wounds closed.

Case Presentations

Case 1. G.H. (UVH #444692), a 58 year old man, had severe continuous pain in the right arm and shoulder secondary to an invasive carcinoma at the apex of the right lung. Management at home became impossible and large doses of narcotics were necessary. Cryoleucotomy was performed. Postoperatively, he had some personality change, becoming facetitious, but he required no narcotics. He was discharged and cared for by his family until he died three months later at home with advanced pulmonary carcinoma.

Case 2. B.H. (UVH #332006), a 41 year old man, suffered complete traumatic transection of the spinal cord in the midthoracic region. Subsequently, he had decubitus ulcers complicated by staphylococcal septicemia and osteomyelitis of both femurs and the thoracic vertebrae. Bilateral thigh amputations were done at another institution. He complained of severe pain in the back below the level of the transection. The pain radiated up the spine to the occiput, requiring large doses of meperidine and morphine to control. After bilateral frontal cryoleucotomy, he no longer complained of pain nor sought analgesics. The only personality change was a mild euphoria. He and his family were pleased with the result.

Case 3. N.H. (UVH #523169), a 61 year old woman, had intractable lower thoracic, abdominal, and pelvic pain secondary to spinal meningiomatosis. Three years before admission, she underwent multiple operations with laminectomies of the entire thoracic and lumbar spine. Tumor had been left at the cervical margin of the laminectomy, precluding cervical cordotomy. The patient was bed-fast and required urinary catheter drainage. She complained continuously of pain necessitating frequent use of narcotics, and became unmanageable because of pain. After cryoleucotomy, she had minimal personality change, appeared comfortable and relaxed, needed no analgesics, and was cared for by her family at home.

Discussion

Cryoleucotomy, like any leucotomy procedure aimed at the control of pain, is probably dependent upon the interruption

of frontothalamic radiations.[4] Because pain enters consciousness at the thalamic level, leucotomy does not eliminate pain but rather destroys its affective component, most likely a function of the frontal lobe rather than the thalamus. Once the frontothalamic radiations have been interrupted, the patient still perceives pain but becomes indifferent to it. He may also lose the anxiety and depression often associated with a hopeless or disfiguring disease.

It is unlikely that leucotomy can control pain without producing some degree of personality change. In the three patients described, a mild euphoria was initially produced. Cryoleucotomy, because of its precise controllability, allows maximum relief from the affective component of pain with minimal personality change. All permanent lesions are preceded by a reversible test lesion. This advantage is present in no other leucotomy procedure.

Cryoleucotomy should be considered in treating any patient with malignant disease, the pain of which cannot be controlled either by narcotics or more peripheral surgical procedures such as cordotomy or rhizotomy. Patients who are not expected to survive longer than two or three months are probably best treated with narcotics. Attempting to control severe pain associated with malignant disease for longer than three months with narcotics often becomes impractical. Many problems attendant to narcotic addiction may well be more damaging to the patient and his family than personality change brought about by cryoleucotomy. White and Sweet[5] believe that a conservatively leucotomized individual is preferable to the chronic morphine addict. It is noteworthy that addicted patients who undergo leucotomy usually no longer desire nor require narcotics and do not suffer withdrawal symptoms when the narcotic is suddenly stopped postoperatively.[6,7] Cryoleucotomy may also be considered in treating patients with non-malignant disease who are chronic invalids with intractable pain requiring narcotics.

Summary

A new procedure for the control of pain, anxiety and depression associated with hopeless disease has been described. The method employs Cooper's cryosurgical unit to interrupt in a controlled, reversible fashion, the medial frontal white matter bilaterally. Personality changes have been minimal, and gratifying results have been obtained in the three patients treated.

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Medical Aspects of Skin and Scuba Diving

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There are medical problems peculiar to the increasingly popular sport of skin and scuba diving. These vary from death by drowning to the painful sting of nettles.

IN 1942 Captain Jacques-Yves Cousteau and Emile Gagnan designed a practical regulator which allowed a diver to breathe compressed air at a pressure equal to that of the surrounding water. With this relatively recent invention of the aqua-lung, skin and scuba diving has increased rapidly in popularity.

By way of definition, Skin Diving is considered to be swimming under water without the use of any breathing equipment, although face mask, flippers, and snorkel may be used. Scuba Diving denotes swimming under water with a Self-Contained Underwater Breathing Apparatus.

Today in the United States there are over one thousand organized diving clubs and an estimated seven million persons enjoy the sport, of which some four million use scuba equipment. Associated with the increased participation in this sport are certain medical problems and deaths are being reported in increasing numbers. In California and Florida there is, on the average, a skin diver death every month.

Drowning

The principal peril of skin and scuba diving is drowning. This is the fourth leading type of fatal accident in our country, accounting for approximately 7,000 deaths a year. In great part, this may be prevented in the scuba diver by proper training, by careful maintenance of the equipment, by being in good physical condition and knowing one's own capabilities. An adequate knowledge of artificial respiration may be life-saving.

Drowning may occur in a normal individual who hyperventilates before breath-holding and skin diving. Under these circumstances the cerebral oxygen may decrease to a critical level causing unconsciousness before the partial pressure of carbon dioxide increases adequately to stimulate the urge to breathe.

Air Embolism

This constitutes the most serious injury seen in scuba divers and can result in instant

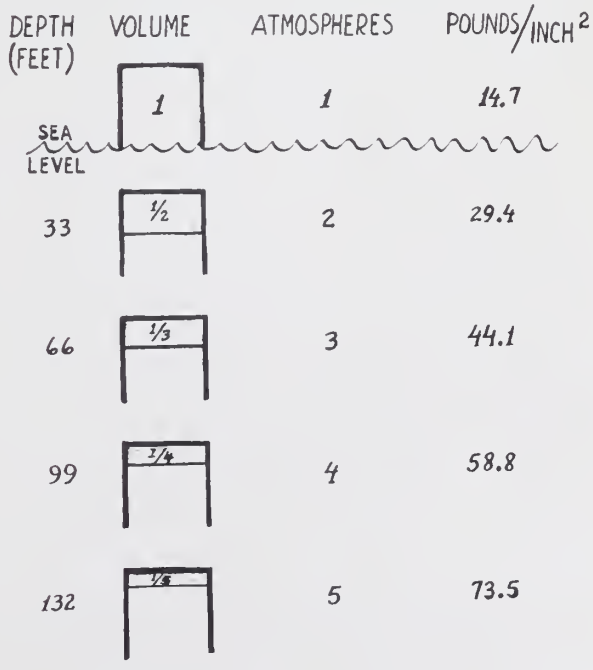


Figure 1. Graphic representation of Boyle's law, showing that the volume of a gas varies inversely with the pressure applied to it.

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death, even in shallow water. It occurs in scuba divers who either hold their breath while ascending or who rise too rapidly. The compressed air which is taken in at a given depth will expand when a diver rises without exhaling, thus causing tearing of the alveoli allowing air to enter the circulation. (Fig. 1) This condition is not seen in skin diving since the volume of inhaled air in the lungs is compressed like a balloon when descending but is restored to its original volume when resurfacing. For this reason pearl divers can go to depths of 100 feet without diving equipment and never succumb to the effects of air embolism.

The symptoms of air embolism are substernal fullness or pain, frothy bright red bleeding from the nose or mouth, gradual hyperesthesias and paralysis of the extremities, vertigo, coma, convulsions or death.

This problem can be avoided completely by training the diver to ignore his natural impulse to hold his breath and almost by "second nature" to exhale continuously while ascending, rising at a rate no faster than 50 feet per minute. Once symptoms have developed the prompt use of a recompression chamber is the only satisfactory method of combating the condition.

Caisson Disease

Perhaps the most common, certainly the most publicized, diving mishap is Caisson Disease or "the bends". This can occur when the nitrogen of the air breathed under sufficient pressure is absorbed into the blood stream. When the external water pressure is reduced as the diver rises, unless ascent is sufficiently slow, the nitrogen will form bubbles in the capillaries producing local ischemia. The symptoms are joint pain, vertigo, coughing, choking, paraesthesias and paralysis.

This misfortune can be avoided by carefully controlling the time spent at any depth greater than 33 feet. Proper decompression stops while ascending when indicated by United States Navy decompression tables will allow time for the nitrogen in the tissue to be released and liberated from the body. Once symptoms of "the bends" have developed, the only treatment is to return the victim to the original dive pressure in a recompression chamber and gradually reduce the pressure to atmospheric pressure at a rate that will allow the nitrogen to dissipate. (Fig. 2)

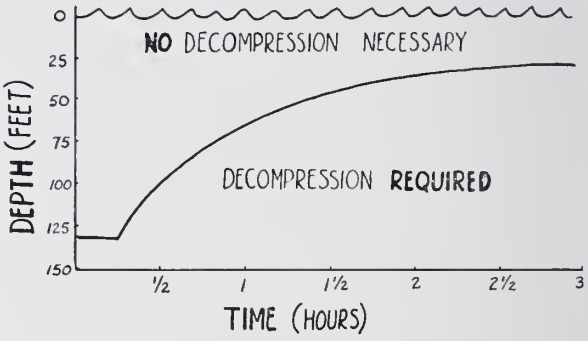


Figure 2. Decompression is no problem at depths of less than 33 feet. At greater depths, however, the diving time allowed is greatly decreased. At a depth of 120-130 feet only 15 minutes may be tolerated safely without decompression.

Oxygen Poisoning

This condition was seen during World War II with Navy divers who used oxygen in a closed circuit with slaked lime to absorb the carbon dioxide. The value of the oxygen to the military was its more compact size and the lack of tell-tale surface bubbles. Certain individuals developed unconsciousness and mental confusion due to excessive amounts of oxygen. Only compressed air should be used by civilian divers.

Carbon Monoxide and Carbon Dioxide Poisoning

Cases of this have been reported with the use of impure compressed air. Usually the condition develops in individuals who have used a gasoline operated air compressor and some of the exhaust fumes have been drawn into the air intake contaminating the air in the tank. Oil must never be used for lubricating compressors since the heat of

the compression chambers will burn the oil forming carbon monoxide and carbon dioxide. Unfortunately there is at present no uniform legislation requiring inspection and certification of compressors to assure a pure air supply.

Asphyxia

This is a very real but not frequent cause of danger to scuba divers. By checking with a pressure gauge the amount of air in the tanks, and by carefully timing a dive, this should remain a rare problem. Tanks are available with a reserve valve which, when activated, gives the diver an additional few minutes of air when the main tank has emptied, allowing him time to resurface. A fundamental rule in scuba is to dive with a companion so the air supply can be shared, if the occasion demands it.

Nitrogen Narcosis

A condition attributed to excessive nitrogen retention occasionally has been described by some divers at depths of over 110 feet where mental confusions, delirium, and intoxication developed. The diver's judgment may become clouded, with serious consequences.

In a word, if the scuba diver will breathe only pure compressed air, stay at depths of less than 33 feet, and ascend slowly while exhaling, the more serious hazards of diving can be avoided.

Barotrauma

A. Otitic Barotrauma

This is probably the most common medical condition encountered from skin and scuba diving. With every dive below 6 to 8 feet there is increased external pressure on the tympanic membrane that must be equalized by pressure through the eustachian tube to the medial side of the ear drum. If this equalization does not occur and there is a sufficient pressure differential, pain, edema, congestion, hemorrhage, and finally perforation of the membrane may develop. The diver usually equalizes this pressure by pinching his nostrils and exhaling. With obstruction of the eustachian tube or in certain middle ear conditions, equalization may not occur; and for the same reason ear plugs must never be worn.

B. Aerosinusitis

By a similar mechanism, if the orifices to the sinuses should become occluded, aerosinusitis is likely to develop. The frontal and maxillary sinuses are the ones more commonly involved. The use of heat, decongestants and analgesics will provide symptomatic relief if barotrauma persists. Diving should be avoided when upper respiratory infection is present.

Motion Sickness

Motion sickness is not uncommonly seen with scuba diving, but fortunately with the new antiemetic preparations this is not a great problem at present. Personally, I prefer Promethazine Hydrochloride (Phenagren) in an average dose of 25 mgm. prior to diving. Vomiting while submerged could easily be a fatal situation.

Marine Hazards of Diving

A. Shark.

Although some divers foolishly enjoy teasing sharks this is certainly not to be recommended; the shark should be greatly respected. The only thing that can be said with certainty regarding sharks is that they are very unpredictable and potentially extremely dangerous.

B. Barracuda.

This vicious appearing fish has been reported to attack swimmers but they are so commonly encountered in the warmer waters that most divers ignore them.

C. Moray Eel.
The moray eel can inflict serious bites if the diver should foolishly insert a hand into a crevice without suspecting an eel may be present.

D. Stinging Marine Animals.
1. Invertebrates
   a. Coral—It is well known that relatively minor abrasions and lacerations caused by coral are extremely slow to heal. It is thought that this is due to a mucoid material present on the coral. Fire or flame coral is a commonly encountered variety of coral which cause severe skin irritations.
   b. Sea Urchins—Painful punctures from the spines of sea urchins are frequently encountered. Often the use of a local anaesthetic is required to remove the brittle barbs that almost invariably break beneath the surface of the skin.
   c. Portuguese Man of War—Stings from this deceivingly picturesque nettle have resulted in severe pain, and, in several instances, paralysis and death. With tentacles stretching almost to 100 feet the average diver and swimmer is well advised to stay out of the water when these creatures are in the area.

2. Vertebrates.
   a. Sting Ray—Injuries from sting rays are quite commonly encountered; about 1,500 cases a year are being reported. The injury usually occurs when a swimmer steps upon a ray which is partially buried or cannot be seen in murky water. The barbed spine of the ray usually becomes deeply imbedded in the victim's leg, causing severe pain.
   b. Fish—Many fish have spines, barbs, or fins that can not only inflict severe mechanical pain when puncturing the skin, but some are found to contain toxic agents.
   c. Water Snakes—Usually these are relatively docile creatures but many have very potent neurotoxic venom.

Treatment

Unfortunately, for most stinging marine animals there is no specific antidote or antitoxin. In general, they are treated with antihistamines or steroids. Atropine is sometimes beneficial. The pain associated with these injuries is often intense and may require moderate doses of narcotics for analgesia. All injuries must be adequately irrigated, cleansed and debrided, and foreign material removed.

Contraindications to Scuba Diving

1. Chronic Lung Disease.
   This would include chronic bronchitis, tuberculosis, cystic disease of the lung, emphysema, or a history of pneumothorax.
2. Cardiac Disease.
   Since the scuba diver is not infrequently placed in situations where sudden and unexpected demands are placed on his cardio-respiratory reserve, if there is borderline cardiac pathology present, especially coronary insufficiency, such an individual is an undesirable candidate.
3. Ear Disease.
   Patients who have experienced frequent bouts of otitis media, recurrent tonsillitis, or are subject to barotrauma should perhaps avoid this sport. Individuals who have had middle ear surgery and subjects with Meniere's disease should be advised not to dive.

4. Sinusitis.
   Patients who are prone to have chronic sinusitis are apt to have the condition aggravated by diving.
5. Neuro-Psychiatric Considerations.
   Individuals who are inclined to claustrophobia have been observed to panic underwater and should be told to avoid diving.
6. Obesity.
   In general, individuals who are considerably overweight should be cautioned not to participate in scuba diving.
7. Diabetics.
   Diabetics who are receiving Insulin should be dissuaded from diving.
8. Pregnancy.
   Although many pregnant women have engaged in scuba diving certainly the physician would be ill-advised from the medical-legal standpoint to permit diving.

Summary

Recently skin diving and the use of scuba has become very popular; associated with the increased participation of this sport are certain medical problems. This paper has attempted to aid the practitioner in advising patients interested in diving. In general, adequate training and instructions by organized clubs in the use of scuba should be urged with emphasis on safety rules. The candidate should be in excellent physical condition. If certain contraindications are present he should be advised not to indulge in the sport.

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Cerebellar Syndrome with Myxedema

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The neurological complications in hypothyroidism are quite common and serious, and when treated early may have a very satisfactory remission.

MYXEDEMA should be considered in the differential diagnosis of cerebellar degenerative diseases.[1,2] The myxedema may not be obvious and has been missed.[1]

A case of cerebellar syndrome with myxedema is presented. A follow-up six months later showed some gradual improvement under appropriate treatment.

Case Report

E.P., a 53 year old gentleman, was admitted to the Martha Jefferson Hospital on March 10, 1964, complaining of dizziness of six weeks duration.

He stated that on January 28, 1964, the attack of dizziness had come on suddenly while he was sitting down. He felt nauseated and then everything went around; he felt he would fall on his head. Whenever he raised his head from the bed, he had a sense of going to the right. Therefore, he had remained virtually in bed since the onset of his difficulty. When lying down and not moving about he had no trouble and felt normal. The unsteadiness persisted daily from the onset of his trouble. His hearing had been poor since 1918, but he had noted no change. An audiogram had been done on February 4, 1964, and the hearing was in normal range until about 2000 cycles per second and then showed a gradual falling off.

He had had some cold intolerance and dryness of the skin for several years. His voice had been husky as long as he could remember. For several years he had run subnormal temperatures. He also had some frontal headaches, watering of the eyes and a tendency to sleep more.

In May of 1963 he had been seen in the Martha Jefferson Hospital and found to have a rather severe degree of obstructive emphysema with moderately severe chronic bronchitis, mild essential hypertension, arteriosclerotic heart disease with angina pectoris and benign prostatic hypertrophy. Several observers mentioned his inadequate personality.

He had had pneumonia and a pulmonary abscess in 1962. Surgery had been done for double inguinal hernias and appendectomy 20 years before.

For ten months he had not smoked his usual one pack of cigarettes a day and, as a result, his cough had stopped and his shortness of breath was less. His appetite had been poor for one month. Occasionally he had pain in the elbows.

Physical examination revealed a pale, middle-aged male with very dry wrinkled skin. His speech was "hoarse as a frog" with no dysarthria. The vital signs were: blood pressure 170/105 mm of Hg; pulse 80; respirations 20; and temperature 97.4°F. The teeth were in poor condition with pyorrhea. The ear, eye, nose and throat were otherwise not remarkable; funduscopic was normal. The thyroid and lymph glands were normal. There was a normal sinus rhythm of the heart with no murmurs. The chest was emphysematous with depressed breath sounds generally. The abdominal examination was

This work was done on the Medical Service of the Martha Jefferson Hospital, Charlottesville, Virginia.

normal. There were no rectal masses and the prostate was slightly enlarged.

His gait was on a wide base and ataxic. In the Romberg position he swayed but did not fall. There was no nystagmus. The extraocular muscle movements were intact. Gross visual fields were normal. The cranial nerves were intact. The non-equilibratory tests were performed reasonably well. There was no rebound on sudden checking of outstretched arms. Position, touch, and vibration were normal. There was a mild decrease in strength in the left deltoid, bicep, and abductors of the fingers. The left bicep and ankle jerks were slightly predominant as compared to the right.

Laboratory data: Hematocrit was 32 ml/100 ml and white blood count 6,500/mm^3. The reticulocytes were 1.9% of erythrocytes, and platelet count 233,000/mm^3. The urine specific gravity was 1.011; sugar negative; albumin negative; and microscopic revealed a rare white blood cell and an occasional epithelial cell. The stool for blood was negative on three occasions. A gastric analysis showed no free hydrochloric acid after histamine, and a total acid of 10. The direct and indirect Coombs tests were negative. On March 11, 1964, the hematocrit was 34 ml/100 ml; hemoglobin 11.1 g/100 ml; and red blood cells 4.1 million/mm^3. The mean corpuscular volume was 82 cubic microns; mean corpuscular hemoglobin 27 micromicrograms; mean corpuscular hemoglobin concentration 30 gm/100 ml of packed red cells; white blood count 5,800/mm^3 with 53% neutrophils, 40% lymphocytes, 4% monocytes, and 3% eosinophils; blood urea 25 mgm per cent; serum cholesterol 354 mgm per cent; and direct serum bilirubin 0.05 mgm per cent and total 0.4 mgm per cent. A basal metabolism was -27. The serum protein bound iodine was 2.7 μg/100 cc. on March 19, 1964. A lumbar puncture was done on March 12, 1964, and the opening pressure was 145 mm water and closing pressure 120 mm water. There were five cells (two lymphocytes and three neutrophils); protein 138 mg/100 ml; Wassermann negative; and colloidal gold curve was 0 112211 000. A repeat serum cholesterol was 350 mg/100 ml on March 13, 1964. A bone marrow showed a moderately cellular marrow, normoblastic maturation, occasional megaloblasts, and was considered nondiagnostic. The blood Kline was negative. A repeat lumbar puncture done March 16, 1964, revealed an opening pressure of 140 mm water and a closing pressure of 105 mm water. The spinal fluid had one cell and a protein of 198 mg per cent.

The repeat audiogram on March 13, 1964, showed no change. The chest x-ray was normal except for possible findings of pulmonary emphysema. The skull x-ray was not remarkable; the only calcification of a physiological nature noted was the pineal which was in normal position. There was very extensive calcification within the internal carotid arteries, more than expected in a patient of this age. The proctoscopic, barium enema, gastrointestinal series, and small bowel studies were normal. An electrocardiogram showed a low amplitude tracing consistent with emphysema, coronary artery disease, myxedema, or pericarditis. A pneumoencephalogram was not done at this time because the hazard seemed in excess of its value.

The diagnosis in this case was obstructive emphysema, chronic bronchitis, essential hypertension, arteriosclerotic heart disease with angina pectoris, and cerebellar ataxia due to myxedema.

The first thought was to obtain an euthyroid state which would probably take six to twelve months. Initially, on March 20, 1964, he was started on thyroid extract, gr. 1/4 b.i.d. This was given in low dosage because of the history of angina pectoris. In several weeks he was transferred to triiodothyronine, 25 mcgms daily and was discharged April 5, 1964. Over a period of three months he had reached 25 mcgms of triiodothyronine t.i.d. and then changed over to thyroid extract, 1 gr. b.i.d.

When next seen in the office, August 7, 1964, he felt his progress was slow. There were no headaches. "The head spins all the time, except when lying down, it quits", he said. Some days would be better than others. Blood pressure 155/60; pulse 108; and temperature was 97.6°F. He walked on a wide base, but could turn quickly and well. There was less swaying in the Romberg; the left tricep was greater than the right and there was an equivocal Babinski on the left.

By October 8, 1964, some six months later, he had slowly improved. He continued to have a spinning sensation in his head. There had been no falls. Blood pressure was 160/95 and pulse was 104. Heart and lung examinations were normal. Funduscopic examination was normal. The gait was characterized by a wide base. He had returned to work as a foreman handling small easy jobs. He remained on thyroid extract, 1 gr. b.i.d.

Discussion

Neurological features play an important role in the clinical picture of myxedema. Psychomotor retardation and psychotic behavior have been known but recently coma, convulsions, lancinating pains, and paresthesias have been shown.[3]

Of 25 cases of myxedema reviewed by Nickel et al., six had objective ataxia and 17 had subjective ataxia. Ataxia was the chief complaint in two cases.[3]

Other neurological and muscular manifestations noted by Nickel et al. with the number of patients in parenthesis were as follows: paresthesias (25); diminished peripheral sensation (15); subjective weakness (25); objective weakness (7); prolonged relaxation of the deep tendon reflex (24); absent deep tendon reflex (1); memory impairment (21); dysarthria and slurring speech (18); mental retardation (14); muscle cramps (14); positive Romberg (5); tinnitus (5); psychosis (2); minor visual hallucinations (3); nystagmus (2); coma (1); and myoedema (6).

Very little information in the way of pathological physiology is available to fully explain the cerebellar syndrome.[1] Because of the few reports of cerebellar ataxia coming to autopsy and the lack of cerebellar changes noted, one has to fall back on the clinical picture. The diagnosis is therefore dependent on the awareness of the clinician. Of six cases with cerebellar syndrome reviewed by Jellinek, three had been seen by physicians who failed to recognize myxedema.[1] Nickel had a case which was admitted to neurosurgery with a diagnosis of cerebellar tumor before the pertinent laboratory test confirmed a diagnosis of myxedema.[2]

The usual laboratory findings of hypothyroidism are noted. The increase in spinal fluid protein may be due to an alteration of the permeability of the blood—cerebrospinal fluid barrier which permits the protein to enter the spinal fluid by diffusion from the serum. Paper electrophoresis of the protein shows elevation of the gamma globulin similar to that in the serum of patients with hypothyroidism. The other protein fractions, albumin, alpha$_1$, alpha$_2$, and beta globulin, are not altered. The spinal fluid protein may be elevated to 300 mgm per cent in myxedema.[2] In Nickel's series, 25 per cent had protein values over 100 mgm per cent.[3] Occasionally, the spinal fluid pressure is increased from 200 mm to 430 mm. water.[2]

The importance of the rapid treatment of myxedema when neurological complications exist is most evident when coma is present. Approximately two-thirds of the patients with myxedema coma die.[4,5] The use of rapid-acting triiodothyronine in sufficient doses, intravenous glucose, hydrocortisone, and adequate ventilation to prevent carbon dioxide narcosis may alter the prognosis. In the cerebellar syndrome recovery may well be dependent upon the duration and severity of the myxedema since all cases in Jellinek's series did not respond to thyroid medication. The progress ranged

from weeks to years and there may be residual cerebellar disorder.[1]

Case: This 53 year old man had been noted to have a peculiar personality for some years and in 1963 was described as being an inadequate person. He became acutely incapacited with ataxia in January of 1964. All of his studies substantiated a diagnosis of myxedema. Because of this, further neurological studies such as pneumoencephalogram were not done in spite of his high spinal fluid protein. Initially he was given small doses of thyroid extract because of his history of angina pectoris; several weeks later he was given triiodothyronine in increasing doses. Within six months he was improving slowly and had returned to work on a limited basis.

Summary

The neurological complications in hypothyroidism are quite common and serious, and, when treated early, may have a very satisfactory remission. A case of cerebellar syndrome with myxedema is presented.

After six months of treatment with thyroid medication, the patient is back to gainful employment.

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How to Eliminate Confusion

Were each drug prescribed a simple, chemically pure substance, one would not be so concerned. However, even the potency of natural products may vary from batch to batch, particularly in the case of the most active ingredients. Consider the great variety of preparations of digitalis, strophanthus, belladonna and other similar substances. Consider also the variety of substances derived from the thyroid gland and other glandular products. In such instances, the simple statement of a generic name does not begin to convey to the user or the prescriber a real picture of the quality of the product. Pharmaceutical manufacturers have offered to the American consumer a variety of preparations from which to choose; the manufacturer, by giving his product a name exclusively his own, identifies that product to the prescriber and the user, and eliminates the possibility of confusion.—Morris Fishbein, M.D., in *Postgraduate Medicine* (39:205), February 1966.

Clinicopathological Conference . . . .

Chronic Renal Failure and Muscle Pain in a Middle-aged Male

Medical College of Virginia

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Clinical History

The patient was a 49 year old white male whose last admission to the Medical College of Virginia was on 4/23/64 because of nausea, vomiting, diarrhea and pain and weakness in his legs. Vomiting occurred after meals and consisted only of undigested food. The diarrhea consisted of the passage of three to four watery stools per day with no blood being noted.

The patient's illness dated from October, 1963, when he had undergone repair of a hydrocele and treatment of a nonspecific epididymitis. He had made an uneventful recovery from the surgery but required a prolonged course of chloramphenicol as a result of an infection of the scrotum. About four weeks after discharge he developed aching pains in the joints of his knees, ankles, feet, hands and elbows which was followed in a few days by painful edema of the feet and ankles. There were also some ecchymoses over the feet. Three days before admission to the hospital he noted that his urine appeared dark, cloudy, and had a reddish tinge. At the same time his temperature rose to 102° and he developed stomatitis and blisters on his lips.

Social and family history were essentially negative.

The past medical history was negative except for a documented allergy to penicillin.

The physical examination revealed an acutely ill white male complaining of pain in all his limbs. BP 110/80, T. 102/. There were vesicular lesions on the upper and lower lips with severe erythema of the pharynx and mouth. There was pitting edema of the ankles and feet and an ecchymosis of the dorsum of the right foot. A few petechiae were noted on the ankles. Laboratory data at that time (11/8/63) revealed an amber cloudy urine with a specific gravity of 1.016 and Ph of 6. There was a 4+ albuminuria. Sugar and acetone negative. Microscopic examination revealed 10-12 WBC/hpf, 8-10 RBC/hpf, 2-3 coarsely granular casts and 3-4 finely granular casts/hpf.

Hemoglobin 14.6 gm.%, WBC 7,245 with a differential showing 67% neutrophils, 3% stab forms, 24% lymphocytes, 4% monocytes and 2% eosinophils. Platelets appeared adequate on smear.

A chest x-ray showed some pleural scarring in the right lung and a small area of chronic atelectasis on the left. A KUB was normal.

The patient was treated with antibiotics, intravenous fluids, and prednisone. A BUN a week after admission was reported as 53 mgm.%. Despite an adequate parenteral fluid intake his urine output decreased over the next week and at that time his BUN had climbed to 236 mgm.%. He developed severe vomiting and was transferred to another hospital for peritoneal dialysis.

His physical examination was essentially unchanged as was the result of the urinalysis.

Laboratory data revealed a BUN of 196 mgm.% with a creatinine of 8.8. Hemoglobin 10.7 gm.%, WBC 14,100 with 82% neutrophils. Serum sodium was 131 mEq./L., serum potassium 6.3, serum chlorides 80, bicarbonate content 5, serum calcium 9.8, phosphorus 16.8. He was treated with peri-

toneal dialysis with relief of vomiting but continued to be oliguric and azotemic.

He was transferred to the Medical College of Virginia in December, 1963, for further diagnosis and care. Physical examination was unchanged. BP 118/73, T. 100.2°. The laboratory data showed hemoglobin 8.7 gm.%, WBC 11,600 with the differential essentially unchanged. The BUN was 180 mgm.%, serum sodium 117 mEq./L., serum potassium 4.0, serum chlorides 84 and bicarbonate content 17. The urine was straw-colored, cloudy and acid. Albumin 2+, sugar and acetone negative. Numerous red and white cells/hpf. Latex flocculation was negative. Several LE preparations were negative. Serum calcium 6.7 mgm.%, serum phosphorus 15 mgm.%. Alkaline phosphatase 4.0 B.L. units. Several blood cultures were negative. Platelet count 350,000. Urine protein varied from 4.7 gm. to 6 gm. in 24 hours.

A flat plate of the abdomen on admission was negative. A chest film showed borderline cardiomegaly and a calcified granuloma of the right lower lung field. A left retrograde pyelogram was normal and skull films were not remarkable.

An electrocardiogram showed non-specific T wave changes.

Shortly after admission the patient had a typical grand mal seizure. A lumbar puncture revealed essentially normal results and an EEG was thought to be compatible with a toxic or metabolic encephalopathy.

A muscle biopsy resulted in no diagnosis and attempted renal biopsy was unsuccessful.

The patient remained oliguric during the first few days of hospitalization but then began a diuresis which resulted, ultimately, in the BUN falling to 37 mgm.%. It rose to 63 mgm.% at the time of discharge coincident with liberalization of his dietary intake. He was sent home on no medication on 2/28/64.

The patient was readmitted to MCV on 3/28/64 because of the onset of dyspnea three days before. He denied other symptoms. Physical examination revealed T. 98.6°, P. 108, R. 32 and PB 150/90. Aside from the tachypnea there was no change in the physical examination.

Laboratory data revealed a urinalysis with a specific gravity of 1.014, acid, 3+ albuminuria and negative for sugar and acetone. Microscopic examination revealed numerous WBC and RBC/hpf but no casts. BUN 175 mgm.%, serum sodium 142 mEq./L., serum chlorides 108, serum potassium 5.4, bicarbonate content less than 5.

Repeat KUB films and chest films were unchanged. A renal biopsy was again unsuccessfully attempted.

Under conservative management he improved sufficiently to be discharged to his home on 4/10/64.

Physical examination on his final admission (4/23/64) revealed BP 160 90, P. 100, R. 18, T. 99 . The patient appeared chronically ill but in no acute distress. Pertinent findings include crusted blood in the right naris, normal fundi, lungs were clear to percussion and auscultation. The liver was palpable 2 cm. below the right costal margin. Two plus edema to the level of the knees bilaterally. Neurological examination revealed that the cranial nerves were intact with the exception of diminished acuity of hearing on the right. Motor strength seemed unimpaired generally but the extensors of the knees, feet and toes were weak. There was diminished vibratory sense and light touch perception below the mid-calf level bilaterally. Deep tendon reflexes were thought to be within normal limits except for symmetrical diminution in the knee and ankle jerks. No pathologic reflexes were elicited.

Laboratory data showed a pale yellow, hazy urine with an alkaline reaction, S.G. 1.008, and 2+ albuminuria. Microscopic examination showed 8-10 WBC and 25-30 RBC/HPF. Hemoglobin 7.8 gm.%, WBC 6,000, BUN 140 mgm.%. Serum sodium 140 mEq/L., serum potassium 4.6, chlorides 88 and bicarbonate content 30. Serum calcium 7.4 mgm.% and serum phosphorus

14.4 mgm.%. Total proteins 5.7 gm.% with 2.2 gm.% albumin.

Chest films and a KUB were unchanged.

The patient remained oliguric under a conservative medical regime. He continued to complain of pain in his legs and otherwise appeared unchanged until 6:00 p.m. on 4/28/64 when he developed a grand mal seizure and died.

Clinical Discussion

Dr. Kinloch Nelson:

I have spent a lot of time on this case, and the more I study it the simpler it gets.

The history describes a 49 year old white man who, in September, 1963, about seven months before his death, had a hydrocele repaired (first admission), following which the wound became infected. We don't know what organisms were present. He was treated with Chloromycetin. Approximately November 1, 1963, he developed aching pains in various joints and painful edema of the feet and ankles. I think this was a hypersensitivity reaction. The term "painful" as applied to this edema bothers me because I have not observed that what I call edema was really tender or painful. Of course, you could say that acute inflammatory swelling was edema, but when I hear the word "edema", I think of the swelling of heart failure, kidney disease, etc. This is seldom if ever painful. Many patients, if you try to dent the edema over the shin, complain of tenderness. I think this is largely imaginary and can speak freely because I have never had any edema.

The ecchymoses over the feet indicate a vascular reaction. In the next few days his urine became dark, cloudy and reddish, suggesting hematuria. His temperature was 102° and he had a bullous eruption on his lips and mouth. Such an eruption was once called the Stevens-Johnson syndrome but is now called erythema multiforme; at times it has been considered a variant of pemphigus or dermatitis herpetiformis.

A very significant fact is the history of allergy to penicillin. Some tend to disregard patient's statements that they are sensitive to something or "can't take this or that." This is very undesirable and dangerous practice.

He was admitted for the second time early in November, 1963. The physical examination simply showed that he was quite ill with fever, vesicular lesions of the mouth, edema, and petechiae. It is quite significant that his blood pressure was normal.

The laboratory findings showed severe kidney damage. He was not anemic nor was there other evidence of bone marrow depression. This is most important because the question of chloramphenicol toxicity arises; this drug may be toxic in a number of ways, especially to the bone marrow, but renal damage has not been attributed to it.

He was treated with antibiotics, intravenous fluids, and prednisone. His BUN of 53 rose to 236 in a week and he was transferred to another hospital (third admission) where the physical examination was unchanged; his blood pressure continued to be normal. He had become slightly anemic and his WBC was 14,100. His creatinine and potassium were up and his sodium and CO_2 down. I do not see why his sodium was down. His phosphorus was extremely high, which disturbs me greatly as I do not recall any such readings as 15 mgm.%. However, Dr. Nelson Young tells me that such a finding is not at all unusual in severe acute uremia.

He was dialyzed, got better, and was transferred to M.C.V. in December, 1963 (fourth admission). Again his blood pressure was normal at 120/75. LE preps. and blood cultures were negative. His urine continued to show much protein, many red and white cells, and only a few casts. The volume of urine is not recorded (a difficult study to make). X-ray studies of the chest, abdomen, left kidney (retrograde pyelogram) and skull were normal. These practically eliminate multiple myeloma. Shortly after ad-

mission he had a generalized convulsion. The spinal fluid was normal. The EEG was compatible with toxic or metabolic encephalopathy. A muscle biopsy was not helpful. An attempt at renal biopsy was unsuccessful (this was fortunate or unfortunate depending on the point of view because had this maneuver been successful, we probably would not be here today).

During the next two months he became well enough to go home without medication. His BUN decreased but never went to normal.

In March, 1964 (fifth admission), he returned to the hospital because of shortness of breath for several days. This is part of his chronic uremia. His blood pressure had now risen to 150/90. His BUN and potassium were up and his CO_2 markedly depressed. He again improved and was discharged on the thirteenth hospital day.

Two weeks later, April, 1964, he was hospitalized for the sixth and final time because of nausea, vomiting, diarrhea, and pain and weakness in his legs. His temperature was not up, but blood pressure was 160/95. The loss of hearing and findings in the legs of weakness, sensory disturbances, and diminished knee jerks suggest multiple peripheral nerve lesions. Again his blood phosphorus was very high (14.4) and his calcium had declined to 7. He was oliguric. On the fifth hospital day he had a generalized convulsion and died.

The best way to review this case is from the standpoint of acute renal failure, a term applied nowadays to a hodgepodge of conditions known in the past by various names.[1] Pre-renal causes of acute renal failure, such as shock associated with injury or infection with Gram negative organisms, seem to be eliminated. We note the scrotal infection but doubt its significance. Post-renal obstructive disease is ruled out by the negative cystoscopy and pyelography. Thus we are left with intrinsic kidney damage as the basis for the renal failure. Glomerulonephritis must be considered. We rule this out because of the absence of facial swelling and the normal blood pressure. On the basis of the data outlined above, we eliminate multiple myeloma and gout, conditions which at times show evidence of marked kidney involvement.

We turn to the same conditions we so frequently have to consider at these conferences, namely collagen vascular disease. Until recently, Dr. W. T. Thompson, Jr., used to give me at the McGuire V.A. Hospital the first C.P.C. of the year. Invariably these cases were periarteritis nodosa or some other condition which mimicked it exactly. I was always amazed by his ability to have such puzzles available.

Bearing in mind the overlapping[2] seen in these conditions, we do not favor lupus erythematosus, dermatomyositis, thrombotic thrombocytopenia purpura or scleroderma. Table I shows one classification of polyarteritis nodosa.

TABLE I

POSSIBLE VARIANTS OF POLYARTERITIS*

1. Hypersensitivity angiitis
2. Allergic granulomatous arteritis
3. Arteritis of serum sickness
4. Rheumatic arteritis
5. Polyarteritis with lung involvement
6. Wegener's granulomatosis
7. Midline granuloma
8. Rheumatoid vasculitis
9. Corticosteroid-induced arteritis
10. Cranial arteritis
11. Aortic arch syndrome
12. Arteritis following resection of coarctation
13. Arterial lesions of hypertension
14. Buerger's disease
15. Cryoglobulinemia
16. Thrombotic thrombocytopenia purpura
17. The isolated arteritic lesion
18. Secondary arteritis—e.g. influenza

* Hollander, J. L., and collaborators: Arthritis, Sixth Edition, Philadelphia. Lea & Febiger, 1960.

Another attempt is by Zeek[3] to divide these cases into two broad groups: one is true polyarteritis involving larger arteries, and the second, hypersensitivity angiitis in which the smaller arteries are affected. There are many variations in between.

Looking at the Table, we can only put this patient's course together under #1, i.e.

hypersensitivity angiitis. The history indicates that he was sensitive to a number of things and developed a widespread vasculitis. This was responsible for the acute renal failure. The process continued with resultant chronic renal failure and involvement of multiple peripheral nerves.

In conclusion, our diagnosis is the hypersensitivity angiitis type of polyarteritis nodosa, and further, this is the only condition he could possibly have had.

Pathological Discussion

Dr. Fairfield Goodale:

The more time I spent with this case, the more complicated it became. However, by great good fortune, Dr. Nelson and I have arrived at essentially the same diagnosis.

At autopsy we found little in the gross examination on which to base a diagnosis. There were 1000 ml. of clear fluid in the right thorax, 500 ml. in the left and 100 ml. in the peritoneum. There was a mild, diffuse fibrous and fibrinous pericarditis. Around the carina were large caseating lymph nodes, strongly suggesting active tuberculosis. The heart was enlarged, weighing 550 gm. There was no valvular or grossly evident myocardial disease. The kidneys were of normal weight but in both kidneys the papillae

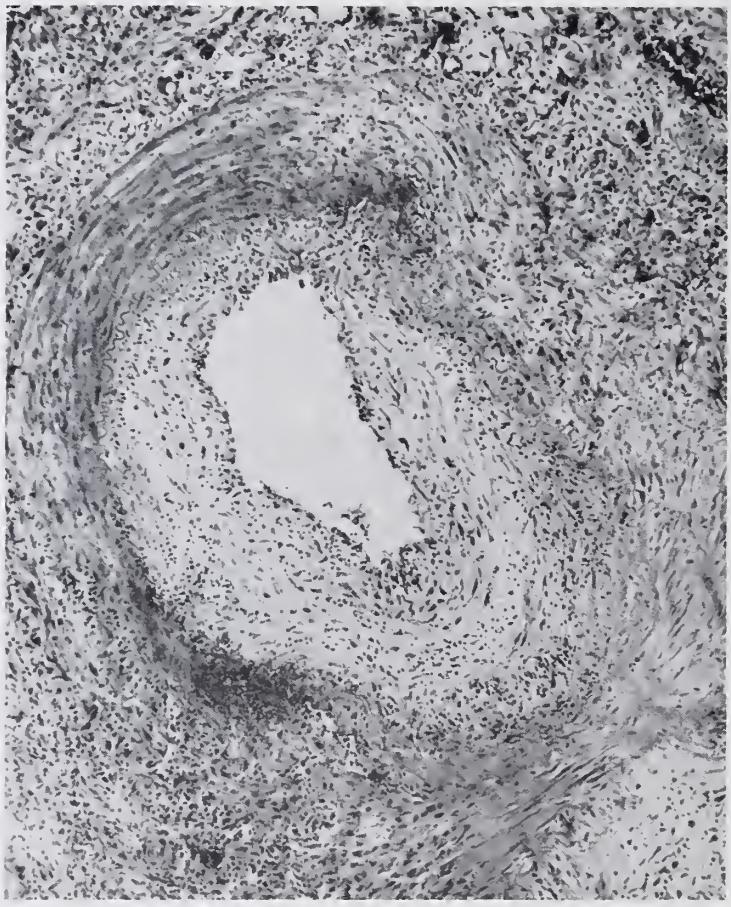


Fig. 1. Intra-renal artery, showing acute and chronic arteritis. There is marked subintimal proliferation of young fibroblasts. Except for the left upper corner, the media and internal elastica have been destroyed. The dark zones at the top and bottom of the vessel represent fibrinoid necrosis. The inflammatory cells are largely eosinophils.

Clinical Diagnosis:

1. *Chronic renal disease of unknown origin*
2. *Gastroenteritis*
3. *Penicillin hypersensitivity*

Dr. Kinloch Nelson's Diagnosis:

1. *Periarteritis nodosa*

showed acute necrosis which proved to be bacteriologically sterile.

Microscopic examination was helpful. Many renal arterioles were virtually replaced by granulation and fibrous tissue. A few were normal but others showed walls disrupted by fibrinoid necrosis and heavily infiltrated by acute inflammatory cells, including eosinophils. (Fig. 1) It is this change that leads to the bulges, aneurysms, nodules ("nodosa") frequently seen in the smaller arteries. In addition to vascular involvement the patient's kidneys revealed a diffuse subacute proliferative glomerulonephritis.

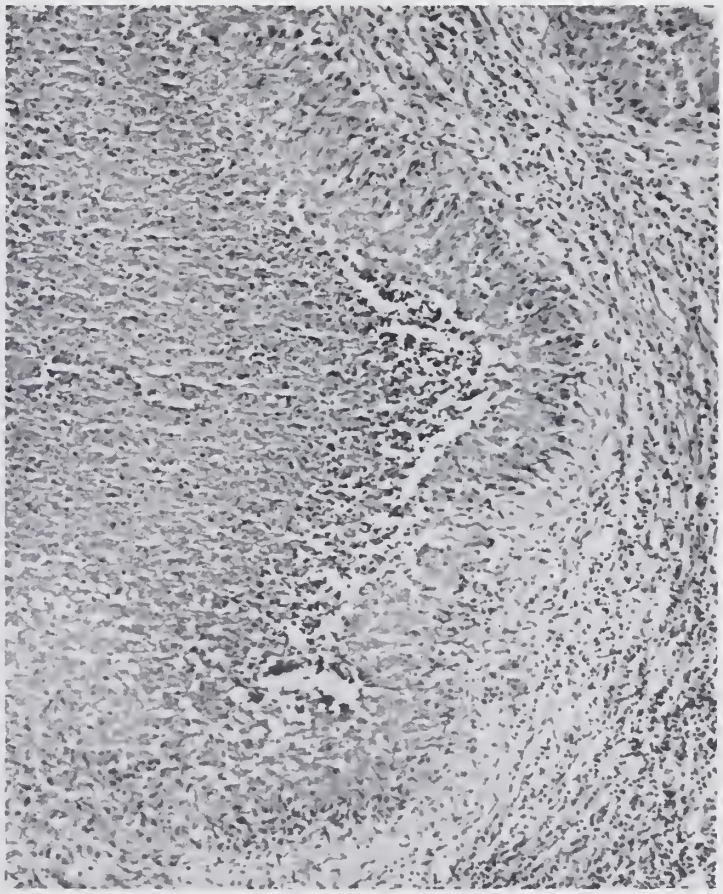


Fig. 2. "Rheumatoid" nodule from carinal lymph nodes. Grossly these resembled tuberculosis. Extensive culture and staining procedures for organisms were negative. Note "palisading" of histiocytes lining the area of necrosis. Occasional multi-nucleated giant cells were present peripheral to the histiocytes. This lesion may be seen in a variety of hypersensitivity conditions.

Microscopic examination of the carinal lymph nodes showed necrosis and palisading, reminiscent of a rheumatoid nodule. (Fig. 2) Special stains revealed no organisms and cultures for fungi and acid-fast bacilli were negative.

The vasculitis described previously was found in many organs including the heart, but was not present in the lung. The involvement of blood vessels in the skin and nerves accounts for the petechiae and the polyneuritis.

This case falls somewhere in the group of diagnoses listed by Dr. Nelson. These diseases are grouped because they involve vessels and ground substance, not because they necessarily possess a common etiology. Today's case is not Wegener's granulomatosis as we have no respiratory granulomata outside of the carinal lymph nodes.

It would appear to be a case of periarteri-

tis nodosa, quite possibly related causally to penicillin sensitivity, in which the vascular changes were so severe as to lead to renal papillary necrosis and necrosis in carinal lymph nodes.

Pathological Diagnosis:

1. *Periarteritis nodosa*
2. *Papillary necrosis of kidneys*
3. *Sterile necrosis (hypersensitivity type) of carinal lymph nodes*

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2. Kampmeier, R. H.: Collagen Diseases—Unanswered Questions on Pathogenesis and Etiology. Arch. Int. Med. 106: 753-85, December, 1960.
3. Zeek, Pearl: Polyarteritis and Other Forms of Necrotizing Angiitis. New England J. M. 248: 764, 1953.

Cholesterol Reduction

A diet to reduce cholesterol in the blood and, hopefully, to reduce the risk of heart disease, is reported in the April 18th Journal of the American Medical Association.

It remains a question whether diet modification actually reduces heart disease, says a Journal editorial in the same issue. But those susceptible to coronary heart disease "might be advised to follow such dietary principles" in the hope that heart-disease risk could be reduced.

The diet isn't designed to take off weight. Its purpose is to maintain the regular intake of calories while substituting foods that produce less cholesterol.

The diet's features:

—Daily consumption of animal fat is reduced to no more than 20 grams (approximately the amount in 7 to 8 ounces of lean, cooked meat) in diets of 2,380 to 3,140 calories. About half this much meat is allowed for daily diets of 1,200 to 1,400 calories.

—Eggs, because of their high cholesterol content, are limited to five or fewer a week.

—The remainder of the diet's fat consists of vegetable oils and their products.

The diet research was done at the Cleveland (Ohio) Clinic, and was supported by the National Heart Institute. Authors of the report are Helen Brown, Ph.D., Marilyn Farrand, M.Sc., and Irvine H. Page, M.D.

A standard diet was developed which gave the maximum cholesterol reduction—an average of 12.3 per cent in seven days and 17.7 per cent in 18 days.

The standard diet contained no eggs, but tests showed that one egg eaten daily did not significantly hinder cholesterol reduction, provided total animal fat consumption was kept below a certain level. Two eggs, however, wiped out any gains in cholesterol reduction.

The standard diet must be followed closely to be effective. Slight variances in consumption of animal and vegetable fats cut cholesterol reduction almost in half during some tests.

"The value of the diet may be nullified with too much 'lean' meat or smaller amounts of meats too high in fat, too many eggs, too little oil or oils too low in polyunsaturates," the Journal editorial said. "The usual problem is that patients may be following a slightly effective diet rather than a fully effective one."

The standard diet was developed in the kitchens of the Cleveland Clinic, using ordinary household foods. It demonstrates that "fat-controlled diets may consist of customary food products providing a variety of appetizing menus. Success of these diets depends upon the talents of the cook."

Diagnostic Laboratory Medicine . . . .

The Pattern of Chemotherapeutic Susceptibility of Some Common Bacteria Isolated in the Richmond Area.

Numerous, national and regional studies of the effectiveness of chemotherapeutic agents against all of the common organisms associated with human disease are available. Still in the face of this voluminous literature, a local evaluation of sensitivity patterns is warranted:

A. This should serve as a means of detecting local strains at variance with the national pattern.

B. Different concentrations of the chemotherapeutic agents are used in different laboratories. These differences result in discrepancies in bacterial sensitivity and such results are only applicable to that institution.

C. Clinical resistance of the organism is sometimes at variance with the laboratories "in vitro" resistance.

D. Local evaluations serve as a control on the laboratory technique by giving an insight as to the reproducibility of results.

All of the chemotherapeutic studies were done using Baltimore Biological Laboratories' discs on blood agar medium uniformly streaked with the organism. The concentrations of the discs were originally chosen on the basis of attainable peak serum of the chemotherapeutic agent. The level of bacterial resistance is one aimed at providing the clinician with the maximum possible number of effective agents for treatment. The effectiveness of the agent in actual treatment of the patient is, of course, hampered oftentimes by factors not incorporated in the "in vitro" sensitivity test. Such factors as protein-binding, rapid metabolization of the drug or rapid excretion cannot be readily evaluated by either the tube or disc sensitivity test.

ANTIBIOTIC SENSITIVITIES OF 1,095 BACTERIAL ISOLATIONS AT M. C. V. HOSPITAL

Organism	Penicillin (10)	Erythromycin (2)	Bacitracin (10)	Oleandomycin (15)	Tetracycline (30)	Streptomycin (10)	Neomycin (30)	Polymyxin B (50)	Colymycin (10)	Chloramphenicol (30)	Ampicillin (10)	Methicillin (5)	Cephalothin (30)
Staphylococcus aureus	58	85	73	76	73	61	0	0	0	98	56	84	96
Staphylococcus albus	78	72	61	61	74	66	5	1	4	85	84	76	92
Beta Streptococci	100	87	60	53	87	60	0	0	0	87	100	100	100
Alpha Streptococci	100	83	70	83	91	39	0	0	0	91	100	57	100
Gamma Streptococci	86	71	71	71	71	14	0	0	0	57	100	0	100
Pneumococci	100	100	67	67	100	89	0	0	0	100	100		
Pseudomonas	0	0	0	0	19	30	88	64	74	41	0	0	0
Escherichia coli	0	0	0	0	50	36	94	73	81	59	86	3	96
Klebsiella Aerobacter	0	0	0	0	63	56	100	85	100	67	24		58
Proteus group	15	0	0	0	10	27	94	18	29	52	53	0	53

Sensitivities expressed in percentage of sensitive organisms.
Values in ( ) represent concentration of drug used in disc sensitivity test.

Table I lists the sensitivity pattern of 10 common organisms against 13 common chemotherapeutic agents. The table represents a total of 1,095 bacterial strains, and the drugs include some of the newer as well as older antibiotics.

With regard to Gram-Positive Organisms, penicillin in the level used was 100% effective against all strains of alpha and

beta *Streptococci* and *Pneumococci.* The *Streptococci* included Lancefields serological A and D (enterics) as well as other groups. While bacteriologically speaking the enterococci are considered to be resistant to penicillin, it should be remembered that this resistance is relative to the other extremely susceptible *Streptococci* such as group A. In reality the resistance of group D *Streptococci* is in the majority of cases a bacteriological figure not equated with clinical therapy.

Only 58% of *Staphylococcus aureus* strains used were susceptible to penicillin. The older drug of preference for this organism on the basis of sensitivity testing was chloramphenicol with 98% of all strains being susceptible. It should be borne in mind that penicillin therapy may play a role in the treatment of *Proteus mirabilis* infections. The 15% of penicillin sensitive strains of Proteus were all found to be this species. Beta *Streptococci* exhibit a certain degree of resistance to the tetracyclines. The beta *Streptococci* had about 13% of the strains resistant to this drug. This is in keeping with other studies where 7% to 18% have been found resistant to tetracyline.

Among the GRAM-NEGATIVE ORGANISMS, the single most effective agent was neomycin. A glance at the table will confirm the impression that there is a wide range of chemotherapeutic sensitivity among this group of organisms. This makes sensitivity studies mandatory as a guide to successful treatment. The fact that some of these organisms are so prone to change their sensitivity pattern during a course of treatment requires continued senstivity studies of new isolates to enable the clinician to institute a continuous course of successful therapy. This is especially true of the *Pseudomonas* and *Klebsiella* groups.

Among the relatively newer agents ampicillin, methicillin and cephalothin, the one that shows very favorable sensitivity studies is cephalothin. This drug had a very good pattern of action on most strains of *Staphylococcus aureus*, *Staphylococcus epidermidis* (*albus*), all *Streptococci* and *E. coli.* Even with *Klebsiella, Aerobacter* and *Proteus* strains, it had an effectivity of over 50%.

There is no question that resistant strains will crop up from time to time in any genera, thus making mandatory sensitivity studies on nearly any organism. It should also be reiterated that no type of *in vitro* sensitivity study will always insure successful clinical treatment; rather these are only guidelines to aid in treatment.

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No One Knows Like the Maker

When physicians encounter an adverse drug reaction it is not uncommon for them to write to the distributor of the drug, possibly in the form of a complaint or as a request for information on similar experience. Reports are often transmitted through the detail man. No one knows as much about marketing experience with a drug as its distributor. —Ralph G. Smith, M.D., in *Journal of New Drugs* (6:66), January-February 1966.

Public Health . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Home Health Services Under Medicare

Designation of the State Department of Health as the Virginia agency to work with the Social Security Administration in the implementation of Title XVIII of the Social Security Act, among other things, presented new opportunities for service to elderly patients in need of home health care.

These opportunities are provided both to public health personnel and the private physician. Without the participation of the physician, home care is not possible since home visits are made only upon the written orders, and under the supervision, of the attending physician. This policy will preserve the physician's role in dealing with the individual patient; he remains responsible for the patient's care.

Home health services will include principally bedside nursing care which will be provided by the nurse and a home health aide. Physical therapists, occupational therapists, speech therapists, medical social workers and other allied professionals also may be utilized if available within the locality.

The nursing services may include general bedside nursing care, giving injections, doing irrigations, catheterizations, changing dressings, and rehabilitative procedures under medical supervision.

The opportunities for service are new, but the program is an extension of the public health home care program that has been operating previously to some degree in health departments of the State. With proper administration and cooperation, it will provide guidance to the family toward better assistance for the patient, while providing a more adequate level of medical and nursing supervision.

Providing more adequate care in the home will decrease the need of hospitalization. It will enable the private physician to discharge some patients from the hospital at an earlier date, knowing that the continuing program in the home will provide adequate nursing care.

All persons of age 65 or older are eligible for benefits covered under Part A, the basic hospital insurance plan, effective July 1, 1966. Under Part A, those who are eligible may receive up to a maximum of 100 home health visits for a spell of illness after discharge from a hospital or nursing home. A person must be homebound to qualify for the service.

Under Part B, the supplemental medical insurance plan, all who otherwise are eligible and elect to pay the $3 monthly insurance premium may receive an additional 100 home health visits per calendar year without prior hospitalization.

Home health services may be provided by the contractor to some persons not under provisions of Medicare regardless of age, when the physician desires to have the service. These persons may be charged a reasonable fee per visit.

Presently, thirty-two city and county health departments have been qualified to provide home health services to residents of their localities by employment of additional personnel. The program will be extended throughout the State as quickly as additional specialized personnel can be employed and oriented. The State Health Department also will be responsible for certification of hospitals, nursing homes, and home care service agencies for participation under the federal program.

Since, under either plan, the local health department or contracted agency will provide the home health services on written

orders from the private physician, the cooperation of the doctors will be necessary if the program is to succeed.

The orders of the physician for home health visits to Title XVIII beneficiaries should consist of a plan outlining the patient's present status, orders for nursing care and rehabilitative services, and a goal which the home health visits should accomplish. Individual plans will be updated as circumstances warrant.

The licensed physician thus is being provided resources that will make possible a higher quality and greater period of care for persons who previously would have found it difficult or impossible to pay for such services. The doctor will control application of the program to his individual patient. How well he uses the new machinery will have considerable bearing on the future level of health for Virginia's citizens.

Monthly Report of Bureau of Communicable Disease Control

	Mar. 1966	Mar. 1965	Jan.-Mar. 1966	Jan.-Mar. 1965
Brucellosis	1	0	3	1
Diphtheria	0	0	0	0
Hepatitis	76	101	193	209
Measles	455	828	862	2172
Meningococcal Infections	10	5	24	24
Meningitis (Aseptic)	1	2	1	4
Poliomyelitis	0	0	0	0
Rabies (In animals)	36	54	95	157
Rocky Mt. Spotted Fever	1	0	2	1
Streptococcal Infections	1418	1483	3581	4003
Tularemia	0	0	2	3
Typhoid Fever	0	0	4	1

Skin Reactions from Perfume

The skin reactions some women get when they wear perfume in bright sunlight may be the fault of the perfume itself, rather than an "allergy".

Certain perfumes are compounds which produce phototoxic reactions, reports Kenneth H. Burdick, M.D., of the Department of Dermatology, Hitchcock Clinic and Dartmouth Medical School, Hanover, N.H. These reactions start as reddened areas, then turn to darkened skin spots which may last several months.

Some women don't react this way to perfume, however, because the outer layer of their skin—the stratum corneum—doesn't allow the perfume to penetrate.

Dr. Burdick removed small patches of this outermost skin layer on ten volunteers, applied perfume to the skin, and exposed it to strong ultraviolet light.

In all ten cases, phototoxic reactions occurred on the stripped-skin areas. Some darkening began within 15 minutes; severe reddening began within 24 hours and reached a peak 72 hours after the perfume was applied.

The rash then subsided, leaving varying amounts of skin pigmentation, or darkening. Three persons also had mild reactions on unstripped areas of skin which had been painted with perfume.

These reactions are typical of the furocoumarin class of compounds, Dr. Burdick said, and tests indicated the phototoxic material in the perfume was of this group.

Manufacturers of perfumes and toileteries "would do well" to use similar tests before putting their products on the market, Dr. Burdick suggested. His report appears in the Archives of Dermatology, published by the AMA.

Current Currents

FISCAL INTERMEDIARY: The Travelers Insurance Company has been named fiscal intermediary for Virginia under Part B of Medicare. The long-awaited and much discussed appointment means that Travelers will replace The Life Insurance Company of Virginia—which decided to withdraw after weighing the many factors concerned.

VA BILL: The House Armed Services Committee has favorably reported H.R. 14088 which would authorize medical care for retired armed forces personnel and dependents in facilities of the uniformed services.

A "clean" bill introduced by Armed Services Committee Chairman L. Mendel Rivers (D) S. Car., would provide a health insurance program patterned after the Federal Employees Health Benefits Program with the additional benefits of physical examinations, immunizations, and emergency dental care. Retired personnel, including retired reservists, and their dependents would be eligible for the program. As proposed, no premium payment would be required of members of the uniformed services. There would, however, be a charge of $25 per hospital stay or a $1.75 per diem, whichever is greater. The beneficiary would also pay 20% of the cost of outpatient services and supplies.

Another provision of the bill, with respect to mentally retarded or severely handicapped children of active duty personnel, requires that the insurance program provide for the diagnosis, inpatient, outpatient, and home treatment of the children and also provide for the institutional care in public and private non-profit institutions. No date for House consideration of this bill has been announced.

KNOW YOUR AMA: The Law Department, in the Office of the General Counsel of the American Medical Association, serves a twofold purpose. First, it furnishes legal advice and guidance to the Association, its Divisions, and its Officers. In this respect, it operates in the same manner as the legal staff of any large organization. Second, it gathers, analyzes, evaluates, and distributes legal information of significance to members of the Association.

Professional ethics preclude the Law Department, and the attorneys on its staff, from representing or advising individual members of the Association in personal legal matters. The Law Department, however, can and does furnish general information on legal problems relating to the practice of medicine. This information is made available to state and county medical societies, to individual physicians, to attorneys who represent such societies or physicians, and other interested persons. Information is disseminated through talks by members of the staff, through articles published in the Journal of the American Medical Association and other publications, through special studies and reports, and through booklets.

PROFESSIONAL LIABILITY: A physician spends many years of intensive study in preparing himself for his profession. One important part of his professional career, however, receives little, if any, attention during his study at medical school or his internship and residency programs. This is the matter of legal liability arising out of the practice of medicine.

Since the risk of being sued by a patient is one of the facts of life for a physician in active practice, it cannot be ignored or wished away. It must be anticipated and faced. With this thought in mind, your editors like, from time to time, to consider questions bearing on the subject. Two important ones are covered this month.

Q—How is a physician-patient relationship established?

A—The relationship of physician and patient, with its attendant rights and obligations, is a contractual relationship. It is established when the prospective patient requests medical attention and the physician agrees to undertake such attention. The request for medical attention and the agreement to furnish it may be either express or implied. If a person presents himself to a physician for diagnosis or treatment and the physician undertakes the diagnosis or treatment, the relationship is established even though no express agreement is made.

Q—When is the doctor-patient relationship legally terminated by discharge of the patient?

A—A doctor may legally discharge a patient when the care and treatment for which he was engaged has been completed, but the doctor must clearly state that he is discharging the patient and be sure that the patient understands that the relationship is terminated. It is advisable for the doctor to keep a written record, in the event that the time of termination is later called in question.

AMAZING BUT TRUE: A Gallup Poll taken just after Congress adjourned last year showed: 57% of the adults interviewed didn't know their Congressman's name; 41% didn't know he'd be up for election in '66; 81% didn't know how he voted on any single piece of major legislation last year; and 86% were unable to mention any specific thing he'd done for the district.

DID YOU KNOW? Hannibal, Carthaginian general, practiced a form of biological warfare in the 2nd Century B.C. when he threw poisonous snakes onto the ships of his Greek enemies.

Poison ivy grows on the North American continent from Canada to Mexico, and nowhere else in the world.

The great artists of the Renaissance—Botticelli, Leonardo da Vinci, Durer, Michelangelo and others—were vitally interested in nature, especially in the construction of the human body and are spoken of as anatomists and physiologists.

Mental Health . . .

JAMES B. FUNKHOUSER, M.D.
EDNA M. LANTZ

The Mental Hygiene Clinic's Contribution to "Aftercare"

The periodic re-examination and continued treatment of mentally ill patients after they have left a State Hospital has come to be called "aftercare". The effectiveness of an aftercare program in the prevention of relapses leading to rehospitalization has been adequately demonstrated as reported previously in these pages. Because considerable distances are involved in many cases, it is not reasonable for all patients to return to the hospitals for aftercare. Therefore, many years ago the Department of Mental Hygiene and Hospitals initiated programs to take care of such patients in the patients' home community.

Initially the State Hospital doctors and social workers operated the aftercare clinics. Later, however, mental hygiene clinics were organized for this purpose. (It was the primary intent of the original legislation that set up the mental hygiene clinics that they should provide aftercare.) However, as soon as the mental hygiene clinics began operating they were overwhelmed with other types of referrals, from schools, courts, welfare agencies, local physicians and others. For several years aftercare became an insignificant part of a community mental hygiene clinic program.

Approximately ten years ago newly discovered pharmacological therapies made it possible to provisionally release a larger number of patients from our State Hospitals. This created significant changes. Today, the State Hospitals are prepared to release a great many patients on "trial visit" if they can be provided with medical supervision and drugs.

Increasingly, mental hygiene clinic staffs are growing aware of their responsibility for such patients and they are being given more and more priority consideration. In most urban and metropolitan areas there are mental hygiene clinics operated by the State Department of Mental Hygiene and Hospitals that are willing to expand this service as quickly as necessary staff can be added. Already working overtime, the staffs in such clinics have in the past been reluctant in some instances to abandon other facets of their program to "take on" aftercare. They could see little reason to refuse to see a new patient on the "waiting list" who was an incipient mental hospital patient just in order to see one who had recently been released. They felt that this was rather a "robbing of Peter to pay Paul" attitude. However, the publicity given to the effectiveness of aftercare and the demonstration that this is a form of prevention, at least the prevention of relapse, has materially modified such thinking.

Less than five years ago, the total caseload in the clinic program that could be designated as aftercare was approximately 5%. More recent figures show that this caseload is near to 13.2%. Actually these percentages do not completely describe the general improvement in aftercare programs but only the improvement in the mental hygiene clinics' participation in the total program. For example, Norfolk, Portsmouth and Newport News have separate aftercare programs not included in the above figures and these programs are new. Also the Cities

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Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

of Lynchburg, Danville and Bristol are opening aftercare programs in their public health clinics in consultation with the Department of Mental Hygiene and Hospitals. Whenever we have analyzed the statistics of relapse rates of these particular areas and compared them with figures in the same areas prior to the beginning of such programs, we discover that progress is being made.

Recently enacted legislation providing for increased amounts for drugs and personnel for the clinics undoubtedly assures that even greater progress will be made.

Medical Careers

There's a bright future for young people interested in medical service careers, says the May issue of MD's Wife magazine.

For men, new specialties such as inhalation therapy and nuclear medical technology offer challenging careers. Fewer than 200 certified inhalation therapists are available today; it's estimated that at least 2,000 more will be needed in the near future. These specialists assist physicians in the treatment of heart and lung ailments.

The nuclear medical technologist works with the radioisotopes used by physicians in diagnosing and treating several diseases. Training courses for these and other specialties are being established at medical schools and hospitals throughout the country, and more are on the way.

A young man interested in surgery recently heard of a new course being given at a surgical clinic near his home. He investigated and then enrolled in the nine-month course for operating room technicians. He learned sterile procedures, the names and uses of surgical instruments and how to set up and manage operating room equipment. Today, he has an important job assisting surgeons in a variety of delicate operations.

Nursing, of course, has long been high on the list of professions that offer prestige and an opportunity to serve others. In addition to registered nurses who undertake several years of intensive education and training, there is a need for practical nurses. Practical nursing students train and study for approximately one year, then take state board examinations for certification to practice. The U.S. Surgeon General's Consultant Group on Nursing sees a need for 850,000 nurses in 1970.

Helping patients regain lost abilities offers work to physical therapists, occupational therapists, speech pathologists, audiologists, and technicians trained to handle special electrical equipment.

The home health aide can perform important service in homes where simple nursing care is needed. This worker usually is a mature woman who has raised her family and understands how to keep a home running smoothly. She also has special training and works under professional supervision.

There will, of course, be a continuing need for more physicians. Fourteen new medical schools are expected to be in operation within five years.

In addition, however, there will be a need in medical research and education for university-trained specialists such as chemists, biologists, pharmacists, and mathematicians.

In all, there are at least, 700 different health career possibilities for young people. Some are so new that few people have heard of them, and others are distinguished by a long tradition of service. The field of medicine offers great opportunities for young people in the years ahead.

The Medical Society of Virginia . . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. Alexander McCausland, President, at 10:00 A.M. on Sunday, February 13, 1966, at Society Headquarters. Attending were: Dr. McCausland, Dr. K. K. Wallace, Dr. Hunter B. McGuire, Jr., Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. W. Callier Salley, Dr. F. Ashton Carmines, Dr. Mallory S. Andrews, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. Nash Thompson, Dr. Harry B. Stone, Jr., Dr. Dennis P. McCarty, Dr. W. D. Liddle, Dr. W. W. Walton, and Dr. Michael A. Puzak. Also attending were: Dr. William Grossmann, 3rd Vice-President; Dr. Thomas S. Edwards, Vice-Speaker of the House; Dr. Allen Barker, Delegate to the American Medical Association; Dr. Kinloch Nelson, Dean, School of Medicine, Medical College of Virginia; Dr. Russell M. Cox, Secretary, State Board of Medical Examiners; and Mr. John B. Duval and Mr. William Miller, attorneys for the Society.

The President, noting that this was the first regular meeting of Council since the elections of last October, welcomed Dr. McGuire, Dr. Andrews and Dr. Liddle. He also recognized Dr. Edwards as the new Vice-Speaker of the House.

Dr. McCausland advised Council that, in an effort to streamline the meeting as much as possible, he had assigned various items on the agenda to individual members of Council. It was his hope that the responsible Councilor would be in a position to lead discussion and thereby better enable the full Council to reach a decision.

Council was advised that Dr. Birdsong had suffered an accident which prevented his attending.

The President then announced that the Life Insurance Company of Virginia had just been designated carrier for Part "B" of Medicare. The appointment was in keeping with the recommendation of Council made in special meeting on December 29, 1965.

It was Dr. McCausland's feeling that the Life Insurance Company of Virginia would most certainly wish to work with a liaison committee representing the Society, and he believed that the existing Medicare Committee should properly assume this responsibility. He went on to say that the Committee would be enlarged in order that each Congressional District could be represented. This would mean that members would have to be appointed from the Second, Third, Fifth, Seventh and Eighth Districts. Councilors from those Districts were requested to suggest committee members to Dr. McCausland as soon as possible.

The Special Committee on Osteopathy was complimented for the very fine job it had done since the annual meeting. Dr. McCausland explained why Council had been polled by telephone concerning the recommendations of the Committee. It was pointed out that a tactical situation was involved and time had become an important factor. The fact that the Council meeting originally scheduled for January 30 had been postponed because of weather had made it necessary to use the telephone approach. It was pointed out that Council's action in this instance appears to be within the scope of its duties as set forth in the By-Laws.

Dr. Wallace then discussed those sections of the By-Laws pertaining to membership. A question had been raised as to whether a physician should automatically be removed from the membership lists when suspended or expelled by a component society. Brought out was the fact that membership is mentioned in twelve different places in the By-Laws and that it seemed wise to consolidate them in one section. It was agreed that the By-Laws certainly intended a member to always belong to a component society.

Dr. Wallace moved that the matter be referred to the Judicial Committee with the recommendation that those references to membership be consolidated into one section. The motion was seconded and carried.

A proposed increase in AMA dues was discussed at some length. The increase, if authorized, would raise the dues from $45 to $70. It was stated that increased activities and mounting costs caused AMA to operate at a deficit of one million dollars last year. Demands upon its services become greater each year, and the only possible solution appears to be a dues increase. Mentioned was the fact that only 30 percent of AMA income is derived from membership dues. Some objections to the proposed increase were noted.

A question was raised concerning whether AMA delegates should be uninstructed on this particular matter. During this discussion, the effectiveness of the AMA lobby was questioned. By way of explaining the tremendous political implications present to-

day in most things pertaining to health, Dr. Murrell described an interesting sequence of events leading to the appointment of the Part "B" carrier for Virginia.

A motion by Dr. Salley that Virginia's delegates to AMA be uninstructed on the matter of a dues increase was seconded and adopted.

Council was advised that a decision must be made as to whether a luncheon should once again be sponsored for Virginia's Congressional Delegation. These affairs have always been held in the spring, and have proved most successful. Dr. Puzak stated that he had been in touch with Congressman Broyhill's office, and that the Speaker's Dining Room at the Capitol had been reserved for Tuesday, April 26. Councilors were reminded that should the luncheon be held, they would wish to personally invite their respective Congressmen.

Dr. McCarty offered a motion to continue sponsoring the luncheons. It was seconded and carried.

Dr. Carmines then moved that the date of Tuesday, April 26, be approved. The motion was seconded and carried.

The problem surrounding drug dispensing by physicians was commented on by Dr. Walton. He reported that the Legislative Committee had met with representatives of the Virginia Pharmaceutical Association, State Board of Pharmacy and State Board of Medical Examiners in an effort to reach some agreement concerning revision of the Pharmacy Code. Although a proposed amendment to the Code suggested by Mr. Duval had been generally well received during the meeting, the Pharmaceutical Association's Legislative Committee had rejected it.

A letter to Dr. Hagood from the Pharmaceutical Association had stated that the proposed amendment could not be supported because (1) the Association did not believe the amendment could be enforced; (2) there appears to be sufficient law at the present time to permit legal dispensing under certain conditions; and (3) hasty action at this session of the General Assembly would appear unwise.

Dr. Andrews stated that physicians are primarily concerned with the welfare of their patients and should have the right to carry and dispense drugs for the purpose of alleviating suffering. He pointed out that in the entire Norfolk area, there is only one drug store with a registered pharmacist on duty twenty-four hours. He went on to point out certain contradictions in the Pharmacy Code which place the physician in violation of the law. This was particularly true with reference to Section 54-475, which would seem to prevent a physician from keeping a supply of pharmaceuticals in his office.

Dr. Andrews then moved that the President appoint representatives of The Medical Society of Virginia to meet with representatives of the Board of Medical Examiners, Virginia Pharmaceutical Association and the State Board of Pharmacy to discuss the whole problem of drug dispensing and sales by physicians, and that it be requested that no legal action be taken against physicians until this matter is settled. The motion was seconded.

During discussion, Dr. Cox pointed out that his main interest is in helping physicians avoid violating the law. Also mentioned was the fact that the present law poses a real problem where the administration of injectables is concerned.

A motion by Dr. Salley to defer action on the motion until Dr. Pennington had had an opportunity to be heard in the afternoon was seconded and adopted.

Dr. Pennington was heard later and indicated that, in his opinion, nearly all physicians were violating Section 54-481 of the Pharmacy Code. This section would prevent a physician without a license to dispense from supplying pharmaceuticals to patients when a sale is involved. Consequently, Dr. Pennington will introduce a bill in the General Assembly which would delete from that section all reference to a sale. In his opinion, this would solve once and for all the problem of drug dispensing by physicians, and support of Council was requested.

A vote was then taken on Dr. Andrews' motion, and it was adopted.

During the discussion of legislation before the General Assembly, Dr. Cox acquainted Council with a bill which would provide the Board of Medical Examiners authority to license graduates of substandard medical schools. The bill would actually permit the Board, at its discretion, to permit such graduates to take the written examination. Pointed out was the fact that some excellent physicians have been lost to Virginia in the past because there was no way to license them. It was also pointed out that there does exist a procedure by which graduates of foreign schools can be licensed, and there is little doubt but that some of these schools are no better than the Class B schools which existed at one time in this country.

Dr. Cox also discussed the bill to bring clinical psychologists under the Board of Medical Examiners, and indicated that the psychologists were making a determined effort to defeat it. He also briefly reviewed the bill which, as requested by The Medical

Society of Virginia, would strengthen the disciplinary provisions of the Medical Practice Act.

Mr. Duval discussed the Drug Abuse Control Bill which would bring Virginia law into conformity with the recently enacted federal law. He noted that the bill would give the Virginia Board of Pharmacy broad powers with reference to what drugs should be included on the controlled list. Where the federal law provides for a committee of experts to make such recommendations, the Virginia bill does not. Representatives of the Pharmaceutical Association have been contacted concerning this omission, and it was reported that they had no particular objection to having a committee of experts authorized in the bill. It was mentioned that such a committee would, of course, be in an advisory capacity only. The thought was expressed that such a committee should certainly include at least three physicians—and possibly more. There also existed some feeling that clinics should perhaps be represented.

A motion was then offered which would leave the handling of this particular matter to the Society's attorneys. The motion was seconded and adopted.

Mr. Miller reviewed a number of bills before the General Assembly, and indicated that 75-80 matters are under constant study. He reported widespread interest in the proposed State sales tax, and mentioned the difficulty of obtaining any exemptions whatever. It appears probable, however, that any pharmaceuticals, spectacles, appliances, etc., sold on a prescription basis will be exempt. Little hope was expressed that hospital bills could be placed on the exempt list.

Concern was expressed over a bill sponsored by podiatrists which would make it mandatory for any prepaid medical and surgical plan to pay for services provided by podiatrists if such services are covered in the contract. Similar bills have been enacted in a number of other states.

Next on the agenda was a request that $100 be appropriated to assist in financing a survey of inactive registered nurses in Virginia. Dr. Thompson stated that the survey was needed in order to learn why so many nurses are inactive and to determine how their return to duty might be brought about. Three other organizations have been asked to contribute $100, and *Dr. Thompson moved that the appropriation be authorized. The motion was seconded and adopted.*

The Executive Secretary was requested to obtain a copy of the survey report for the Society.

Dr. Walton was requested to comment on a proposal that the Society participate in the newly developed "Aesculapius Award" program sponsored by Mead Johnson Laboratories. The program has been established to recognize and reward excellence where scientific exhibits are concerned. For example, the winning exhibitor at the Society's Annual Meeting would receive an appropriate certificate and cash award of $200. Dr. Walton expressed the feeling that the proposal had some merit. The question was raised concerning whether Mead Johnson was expecting publicity from the award and whether the Society might be running the risk of commercializing its exhibits. The thought was expressed that it might be well to find some way of recognizing unusually good scientific papers.

A motion by Dr. Walton to participate in the "Aesculapius Award" program was seconded and adopted.

Dr. Stone then called Council's attention to the many contributions Dr. Kinloch Nelson had made to the Society. Dr. Nelson has served not only as Speaker of the House, but also as Vice-President and member of many active committees. Dr. Stone introduced the following resolution which was adopted unanimously:

> WHEREAS: Dr. Kinloch Nelson, Speaker of the House of Delegates of The Medical Society of Virginia 1962-65 has expressed a desire to be relieved of this office of the Society; and
>
> WHEREAS: We of the Council recognize the growing responsibilities of his duties as Dean of the School of Medicine, Medical College of Virginia, during a time of crucial expansion of the College and creative reorganization of its curriculum; therefore be it
>
> RESOLVED: That the Council of The Medical Society of Virginia recognize with gratitude the unselfish service of Dr. Kinloch Nelson as Vice-Speaker and Speaker of the House of Delegates; and be it further
>
> RESOLVED: That the Council, the House of Delegates and the members of The Medical Society of Virginia look forward to a continued association with Dr. Nelson, and his continued counsel with the Society as an educator and "Elder Statesman".

It was recalled that when Council met on October 10, it directed that the 1969 Annual Meeting be held at Virginia Beach. Since that time, available dates at the Cavalier Hotel—which will serve as Headquarters—have been obtained. *It was moved by Dr. Wallace that the dates of October 16-19 be approved. The motion was seconded and adopted.*

The 1970 Annual Meeting was then discussed, and

it was agreed that Richmond would seem to be in line for the meeting that year. The John Marshall was reported to be holding the dates of October 11-14, and it was agreed that these seem to be ideal.

A motion by Dr. McCarty to approve October 11-14 for the 1970 meeting in Richmond was seconded and adopted.

Council then turned its attention to a request from the Department of Pediatrics, University of Virginia School of Medicine, that a proposed Regional Poison Center be endorsed. Although a federal grant will be involved, the Department is only requesting the Society's endorsement of the Center itself. It was mentioned that the Center will also handle other emergency services—such as chemical burns, etc. Pointed out was the fact that there are other such Centers operating at the present time—one of the best known being that at the Medical College of Virginia.

A motion by Dr. McCarty to endorse the Center at the University of Virginia was seconded and carried.

Dr. Salley was requested to present his views concerning the Rules of Procedure used each year by the House of Delegates. He first stated that, in his opinion, extra secretarial help was needed to help expedite the work of the House. This is particularly true where Reference Committees are concerned.

A motion was made by Dr. Thompson that Council authorize the employment of such extra secretarial help as might be needed during the Annual Meeting. The motion was seconded and carried.

Dr. Salley went on to suggest some changes in the Rules of Procedure. The first would require that resolutions in their completed form be placed in the hands of the Speaker before any active consideration is given. Failure to do so has caused some confusion in the past.

A motion to amend the Rules of Procedure by requiring resolutions first to be placed in the hands of the Speaker was seconded and adopted.

A second proposed change would make it possible for Past-Presidents of the Society to serve as Chairmen of Reference Committee No. 3. This would make for more flexibility. *A motion to this effect was seconded and carried.*

Another proposed amendment would permit a Reference Committee to receive testimony from a non-member, should it so desire. The amendment would also provide for executive sessions following receipt of testimony. *A motion to approve these two proposals was seconded and adopted.*

Another amendment would permit a Reference Committee to dispose of items on its agenda in any manner not contrary to accepted parliamentary procedure. *A motion to this effect was seconded and adopted.*

Dr. Salley's last proposal would provide that suggested amendments to reports of Reference Committees also be placed in the hands of the Speaker before consideration. *A motion of approval was seconded and adopted.*

Although it had been planned to forego consideration of whether the providing of complementary coverage for Medicare by Blue Shield would be contrary to basic Blue Shield philosophy, it was decided to reinstate the item on the agenda.

A motion was then introduced by Dr. Salley which would have Council approve in principle Blue Shield complementary coverage of areas of professional services of Doctors of Medicine not included under Fedicare (Medicare). The motion was seconded.

Council learned that the Board of the Virginia Medical Service Association had not endorsed such coverage, and that some Board members did not believe Council should consider the matter at this time. There was some question as to whether consideration by Council had actually been requested by the Board or not.

There followed lengthy discussion concerning pros and cons of the question, and it was reported that AMA favors covering those items not included under Medicare—although not necessarily by Blue Shield or other carriers. It was stated that many commercial carriers intend to make such complementary coverage available, and that competition must be considered. There were those who believed that Medicare should be left to stand on its own merits, and not assisted by those companies and associations representing free enterprise.

A suggestion was made that Blue Shield be permitted to offer such coverage as long as the coverage itself is self-supporting. It was also suggested that such coverage feature some form of coinsurance; that the usual and customary fee approach be followed; and that there be no discrimination against the under sixty-five age group. A statement was made to the effect that complementary coverage did not appear feasible in the least.

The original and basic philosophy of Blue Shield was reviewed, and a question was raised concerning what the future relationship of medicine and Blue Shield should be.

A motion by Dr. McCarty that the matter be tabled was seconded and adopted.

Dr. Warthen discussed a request by the Virginia Pharmaceutical Association that the Society consider the feasibility of permitting that group to establish permanent headquarters in the Society's own Headquarters Building. An addition to the building would be necessary. Dr. Warthen voiced the opinion that the Society might some day have to add another wing to the building in order to take care of its own needs. The addition of such a wing would complete the so-called "T" which the architect originally had in mind. It was Dr. Warthen's feeling that, should the Society look favorably upon the Pharmacist's request, construction should be financed entirely by The Medical Society of Virginia. He believed that it might be well for the President to appoint a committee to confer with representatives of the Pharmaceutical Association in order to discuss the matter in greater detail.

Mr. Duval commented briefly on zoning restrictions which must always be considered, and could see some obstacles which might have to be overcome. He indicated that renting space in the building to another allied organization would seem to pose no problem as long as no mortgage was involved.

A motion by Dr. Wallace requesting the President to appoint a committee to confer with representatives of the Virginia Pharmaceutical Association was seconded and adopted.

Dr. Warthen then reported on what had been done in an effort to guard against break-ins at the Headquarters Building. He stated that two burglaries had occurred in recent months, and that the location of the building posed certain problems in this respect. After consulting with police, it had been decided to install an ADT silent alarm system of protection. This system is working extremely well in Richmond public schools, and some 450 area business firms have also sought its protection. Dr. Warthen indicated that the system should be operational within the next few days.

During a discussion of the PKU problem, it was learned that a proposed survey advocated by the Arlington Junior Chamber of Commerce has been cancelled for the moment. The survey would have been for the purpose of determining how many physicians made testing for PKU a standard part of their practice.

Dr. Liddle advised Council concerning legislation before the General Assembly which would make testing for PKU mandatory. He presented a number of reasons for opposing the legislation, emphasizing that it would place an almost impossible burden on any physician attendant on, or assisting in any way whatever, an infant or mother at childbirth. The fixing of responsibility would be a most difficult task.

Dr. Liddle went on to say that such legislation would set a most undesirable precedent, and could conceivably lead to other legislation requiring such mandatory testing as might be desired by any lay, pressure group. He added that such legislation would seem to be unnecessary in view of the very effective program being carried out under the supervision of the State Department of Health. Where such mandatory laws have been enacted, there has been resultant confusion.

Brought out was the fact that a good physician does not have to be told what tests he must employ. More often than not, proponents of such bills have little understanding of the nature of the disease concerned, and know even less about methods used for its detection. It has been proved that legislation tends to restrict medicine to practices and procedures which soon become obsolete.

Dr. Liddle then introduced a motion which would have the Council of The Medical Society of Virginia make known to the General Assembly that it is opposed to legislation in general which would require the mandatory testing for diseases not in the public health domain, and that Council oppose, in particular, proposed legislation which would provide for the mandatory testing of newborn infants to determine the presence of a disease known as phenylketonuria (PKU). The motion was seconded.

The motion was discussed thoroughly, and it was agreed to amend it by substituting the wording "not in the public risk" for "not in the public health domain". *The motion, as amended, was then adopted.*

Reporting further on the legislative situation, Mr. Miller covered again the bill being sponsored by podiatrists for the purpose of making it mandatory for Blue Shield, and other prepaid medical and surgical plans, to pay for certain services provided by podiatrists when such services are included in the carriers' contract. It was stated that The Medical Society of Virginia has always opposed such coverage and that podiatrists have never been paid on a contractual basis. They were, at one time, paid as the result of an administrative action.

The State sales tax bill was also discussed further and the hope expressed that the provision exempting prescription drugs would not be removed.

Dr. Shanholtz was asked to comment concerning Title XIX of Medicare and the possibility of obtaining enabling legislation during this session of the

General Assembly. There appears to be a good chance that such legislation will be enacted, although actual implementation of Title XIX will probably not take place until 1968. Dr. Shanholtz indicated that the plan of implementation will be developed with the assistance of the Governor's Advisory Committee, and that The Medical Society of Virginia will certainly be called upon for its assistance.

The next item on the agenda had to do with a conference on population growth to be sponsored in Richmond by the Virginia League for Planned Parenthood. The Medical Society of Virginia has been requested to lend its name as a co-sponsor of the event. The conference, which will be officially recognized by the Governor, will cover such subject areas as economics of population growth, the role of the church in population growth, and medical aspects of family planning. It was brought out that should the Society endorse the conference, it would not mean that it necessarily supported the entire program of the League for Planned Parenthood.

Dr. Finch then expressed the hope that the Society would co-sponsor the conference and offered a motion to that effect. It was seconded and adopted.

The recently enacted Heart, Cancer, Stroke Program came in for its share of discussion, and Dr. McCausland stated that he wished advice as to whether a special committee should be appointed at the State level. Such a committee would have as its primary objectives the education of the physician and dissemination of important information. It was reported that AMA has recommended the appointment of local and state advisory committees, and that some component societies already have such committees ready to go to work. Dr. McCausland also reported that the Society has a representative on the Governor's Heart, Cancer, Stroke Advisory Committee.

Dr. Nelson presented his views concerning the program, and stated that Virginia offered what might be considered a perfect geographical region for implementing the Heart, Cancer, Stroke Program. Funds have been made available for the planning phase of such a program, and the big need at the moment is for a director.

A question was raised concerning whether such educational programs should be hospital oriented or handled through medical societies. The feeling was expressed that, in recent years, the hospital atmosphere had helped achieve better results than the medical society atmosphere. It was agreed that the Heart, Cancer, Stroke Program might well represent a radical departure from established patterns of medical practice. There was some feeling that medicine did not have to apologize for the job it had done in the area of continuing education.

Dr. Nelson explained that the Heart, Cancer, Stroke Program is actually very flexible, and that Virginia can determine exactly what type program it desires.

Dr. Stone moved that the President appoint a special committee on Heart, Cancer, Stroke. The motion was seconded and adopted.

Discussed next was a proposal to create a committee for the purpose of better establishing the needs of handicapped children in Virginia and provide emphasis on their rehabilitation and education. Dr. Liddle commented on the proposal, and stated that, in his opinion, a new committee was needed—separate and distinct from the present Committee on Child Health. The question was raised as to whether it should be a special or standing committee.

A motion by Dr. Liddle requested the President to appoint a Committee for Handicapped Children and that the Judicial Committee be asked for its recommendation concerning whether it should be made a standing committee. The motion was seconded and carried.

Council was informed that many physicians were requesting that an effort be made to develop one Blue Shield Plan for the entire State. It was generally believed that the needs of the public and the medical profession could best be served by having one Plan. Dr. Murrell told of the complaints he had received and cited the wide differences between the Plans serving the Roanoke area, Northern Virginia, and that part of the State served by the Virginia Medical Service Association. He stated that the following resolution had been place on the agenda in an effort to obtain the thinking and advice of Council:

> Be It Resolved that The Medical Society of Virginia believes the needs of the general public and medical profession can be best and uniformly served by having but one Blue Shield Plan in Virginia.

Dr. Salley then moved that the resolution be referred to the Committee on Medical Service for study with the request that it report its recommendations to Council just as soon as possible. The motion was seconded.

A resolution was offered by Dr. Thompson which called for a meeting to be arranged between representatives of the various Blue Shield Plans in Virginia

for the purpose of discussing the feasibility and possibility of establishing uniformity of coverage. The resolution also would request the National Blue Shield Association to attempt to correlate the various Blue Shield Plans throughout the nation.

It was ruled that action on the motion to refer should take precedence over the resolution and discussion continued on Dr. Salley's suggestion. There was some feeling that physicians in Northern Virginia desire to be under the District of Columbia Blue Shield program. The thought was also expressed that a uniform fee schedule might not be practical for the entire State.

Dr. Salley's motion to refer the matter to the Committee on Medical Service was then adopted.

A letter from Dr. John O. Boyd, Jr., concerning the Joint Medico-Legal Screening Panel was discussed. Because of the increasing number of cases being submitted for Panel hearings, it has become necessary for three physician members of the Panel to meet in Richmond each month. It had been proposed that these Panel members be reimbursed for transportation, meals and lodging. Lawyer members of the Panel would have their expenses reimbursed by the State Bar.

Dr. Boyd's letter also contained a proposal from the Panel that The Medical Society of Virginia be reimbursed each year from a special Panel fund for all expenses incurred in administering Panel affairs. The fund is derived from application fees submitted by the plaintiffs. After the Society has been reimbursed, any money remaining in the fund would be evenly divided between the Society and the Bar.

Dr. Carmines then offered a motion which would reimburse physician members of the Panel for their expenses until the next Annual Meeting of the Society. The motion was seconded.

Dr. Salley then moved that any further consideration of the motion be postponed until the next meeting of Council. The motion was lost for want of a second.

The motion of Dr. Carmines was then adopted with Dr. Salley recorded as dissenting.

The role and importance of utilization committees was discussed at length. Dr. Andrews made available to Council kits prepared by Norfolk General Hospital on how utilization committees could best be established. It was brought out that utilization committees might well hold the key to how smoothly and effectively Medicare will actually operate.

Dr. Andrews moved that the President appoint a Committee on Hospital Utilization, and that this Committee be authorized to cooperate with the Utilization Committee of the Virginia Hospital Association in sponsoring a one-day institute on hospital utilization. The motion was seconded and adopted.

Attention was called to a letter from Dr. Grossmann in his capacity as Chairman of VaMPAC. VaMPAC's Board of Directors had nominated Dr. E. T. McNamee, Stuart, and Dr. Alvin E. Conner, Manassas, for appointment to the Board. These additions would bring the Board up to its authorized strength of twenty members.

Dr. Walton's motion to elect Dr. McNamee and Dr. Conner to the VaMPAC Board of Directors was seconded and adopted.

Dr. Grossmann voiced the feeling that some physician members of the Virginia Medical Service Association Board of Directors wanted to be guided by Council on matters involving principle, philosophy, etc. It was his feeling that this is a responsibility which Council should take seriously. In this connection, he raised the following questions:

(1) Is Council concerned with Blue Shield and private insurance offering complementary coverage to Medicare?

(2) Does Council wish to express itself on such matters?

(3) Should Council approve or disapprove (a) elimination of deductible and coinsurance features; (b) provision that payment to physicians be in keeping with the usual and customary fee approach; and (c) premium rates be self-sustaining.

Dr. Salley then requested consideration of a recent action by Council with respect to the special report prepared by the Committee on Osteopathy. Members of Council had been contacted by telephone in order that action could be taken before the General Assembly had moved too far into its calendar. As a result of the telephone poll, a resolution had been forwarded to the Board of the Virginia Medical Service Association stating that should the Board "reach the conclusion that participation by osteopathic physicians and oral surgeons in the Blue Shield Plan is in the public interest, The Medical Society of Virginia would take no action to reverse this decision unless it possessed information which proved, or alleged to prove, that malpractice is a definite threat where osteopathic physicians and oral surgeons practicing in Virginia are concerned . . . .".

It was Dr. Salley's contention that Council might well have acted improperly, since the House of Delegates had previously taken a stand concerning payment of osteopaths by Blue Shield. He stated that in

October, 1964, the House voted that the Society's position in this regard remain unchanged. The position at that time was that Blue Shield contracts should not be amended in such manner as to provide coverage for certain services of osteopaths, podiatrists and oral surgeons. Dr. Salley went on to state that the 1965 report of the Medical Service Committee had also been approved by the House. This report restated Society policy.

It was for these reasons that Dr. Salley insisted that the recent action by Council be reconsidered.

During the ensuing discussion, Dr. Salley raised the objection that no formal meeting of the Council had been called to consider the report of the Committee on Osteopathy, and that, consequently, no one had an opportunity to raise a point of order.

It was explained that new developments involving the General Assembly had made it necessary for Council to take some action, and that the time factor led to the decision to poll Council members by telephone. The situation had been deemed to be something of an emergency—complicated by the fact that the meeting of Council scheduled for January 30 had been postponed because of the blizzard which had swept the State on that date.

In order that the situation might be clarified, a motion was introduced requesting Council to sustain the action of the President in handling the matter with Council by telephone. The motion was seconded and adopted. Dr. Salley recorded a dissenting vote.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:

ALEXANDER MCCAUSLAND, M.D.
President

The Federal Government Decides . . .

As of today, the Federal government may designate the official name of a drug product, if it is not satisfied with the originator's suggestion. The Federal government maintains survevillance over clinical research on the project, and can halt or redirect it at any time. The Federal government decides whether the product can be placed on the market. The Federal government decides when to permit its sale. The Federal government decides its method of distribution. And finally, the Federal government decides what can be advertised about the product. It is still within the privacy of our industry to make two important decisions—whether to undertake laboratory research on a given project, and what to charge for a product.—C. Joseph Stetler to Northern California Pharmaceutical Association, January 29, 1966.

Woman's Auxiliary . . . .

President—Mrs. George W. Kelly, Jr., Pulaski
President-Elect—Mrs. Ralph Landes, Danville
First Vice-President Mrs. William Reardon, Falls Church
Second Vice-President—Mrs. J. R. McGriff, Arlington
Third Vice-President—Mrs. Walter Eskridge, Parksley
Recording Secretary—Mrs. Harold Goodman, Richmond
Corresponding Secretary Mrs. A. B. Gravatt, Kilmarnock
Treasurer—Mrs. Robert Mitchell, Falls Church
Parliamentarian—Mrs. T. N. Hunnicutt, Newport News
Historian—Mrs. W. Fred Delp, Roanoke
Publicity—Mrs. Daniel Anderson, Norfolk

Mid-Year Board Meeting

It was a bright and mild St. Patrick's Day when your state officers, chairmen, local auxiliary presidents and presidents-elect began to arrive in the Conference room of Medical Society Headquarters in Richmond. Our President, Mrs. George Kelly, had name tags with pressed four leaf clovers for everyone and a real live shamrock on the speaker's table. Local Auxiliary reports were scrolls attached to the wall for easy viewing.

Guest Speaker

Mrs. John E. Baybutt, Regional AMA-ERF chairman, from Easton, Maryland, opened her talk with a familiar question—"*Why AMA-ERF?*". Her answer: "To meet a need not supplied by any other means". AMA-ERF moneys follow two channels, Funds to Medical Schools and Guaranteed Loan Funds. The funds to medical schools provide additional faculty salaries to entice quality professors, equipment, library material and most important to provide emergency unbudgeted funds for the discretionary use of the Deans. (Dr. Kinloch Nelson, Dean of Medicine at Medical College of Virginia, has been most verbose in his appreciation of this latter.)

In the Guaranteed Loan Fund, $1.00 yields $12.50 in loans. Why is this important now that our Federal Government gives student grants? Mrs. Baybutt's answer was that 40% of the loans granted are to residents and interns who do not fall into the government's classification of "student" and the remainder goes to medical students who do not wish to become government obligated.

Last year in Virginia, $2,875 was donated to AMA-ERF Funds for Medical Schools and $300.21 to the Guaranteed Loan Fund. Our return to Virginia from AMA-ERF last year was $10,151.04 to the University of Virginia Medical School and $7,734.52 to the Medical College of Virginia. Under the Guaranteed Loan Fund, 197 loans were granted in Virginia Medical Schools totaling $225,300.00.

These figures, given by Mrs. Baybutt, were so startling and exact that her audience was more determined than ever to raise Virginia's contribution to AMA-ERF. The fiscal year for reporting this fund ends in May.

"Ways of making money for AMA-ERF should be fun, should use the creative talents of your members and should build rapport in your community", Mrs. Baybutt emphasized.

She displayed the new "In Honor Of" cards which have been added to the "In Appreciation" and "In Memoriam" cards printed by the A.M.A. at no charge. This card originated in her home State of Maryland for the 50th anniversary of their State Auxiliary President. A little originality went a long way for AMA-ERF.

Membership

State President-elect, Mrs. Ralph R. Landes reported the current auxiliary membership for the State as 1,504. In stressing the need always to increase local memberships, she reported on a motion before the AMA board that auxiliary membership dues be collected automatically from a married doctor when he pays his Medical Society dues. This is still far from reality but certainly something to think about.

Facts About VaMPAC

Mrs. James M. Moss, member at large of VaMPAC Board of Directors, in urging membership for us and our husbands presented the following questions and answers about VaMPAC:

1. *What Is VaMPAC?*

The Virginia Medical Political Action Committee is a voluntary, non-profit organization whose membership consists of physicians, their wives, and others.

2. *Why Was VaMPAC Organized?*

VaMPAC was organized because the medical profession needs an organization through which its members can participate effectively in public affairs. VaMPAC's dual role is to further the political knowledge of its members; and to provide them with the means for concerted political action.

3. *Is VaMPAC Affiliated With Either Major Political Party?*

NO. It is bound neither by Democratic nor Republican party labels. The program and platform of the individual candidate determine whom VaMPAC supports—not the candidate's party affiliation.

4. *Is VaMPAC A Permanent Organization?*

YES. Experience proves that one-shot programs of political education or action just don't get results. Effective candidate support demands politically knowledgeable people who keep up to date on issues, candidates and campaign techniques.

5. *Does VaMPAC's Educational and Political Activity Duplicate, or Clash With, The Activities of Similarly Oriented Political Action Organizations?*

NO. As a state organization, VaMPAC supplements rather than supplants the programs now being carried out by such groups. VaMPAC simply provides its members with the means of concentrating their material resources in an effective manner, thereby avoiding duplication of effort within the medical profession and reinforcing action programs now in effect.

VaMPAC's members remain active within the political party of their choice but multiply their political effectiveness through the concerted effort their membership in VaMPAC makes possible.

6. *How Does VaMPAC Use Its Financial Resources to Best Effect?*

FIRST, through education. VaMPAC services its members with voting records, how-to-do-it materials on candidate support, precinct action programs, voter registration drives, party organizational structure and similar subjects.

SECOND, VaMPAC follows proven campaign techniques and selects candidates for support on a realistic basis.

Target areas are chosen after thorough analysis at the local level; after consideration of the candidate's voting record and political principles; after thorough study of the many factors that determine his chances of winning.

THIRD, VaMPAC coordinates its efforts with those of other groups—medical and non-medical—actively engaged in working for better government.

7. *What Relationship Exists Between VaMPAC and The Medical Society of Virginia?*

VaMPAC functions independently of all other medical organizations and societies—national, state, and local. However, VaMPAC's directors are appointed annually by The Medical Society of Virginia. Further, The Medical Society of Virginia and other incorporated medical associations are free to contribute to VaMPAC—but only to its educational, *not* political, activities.

Doctor's Day

As Counselor to the Auxiliary to Southern Medical Association, Mrs. Nash Thompson stressed the importance of graphic, pictorial, and written descriptions of all Doctor's Day Observances being sent to her to be incorporated in our display at the convention of Southern next fall. To "pep up" our plans for Doctor's Day, Opal had an apothecary jar of her homemade pepper jelly for

each one to take home. Each jar bore a red carnation, symbol of Doctor's Day.

Question Period

The board meeting concluded with an unusual question period. Each member was given a brown paper shotgun on which to write or "shoot" her question at our President. These will be compiled and those of general interest included in our next issue.

International Health

Mrs. Joseph M. Straughan stressed the need all over the world for our "left over" drug samples. Several boxes were collected at the board meeting for her to pack and send.

Bandages, knitted or from sheets are needed. One member was knitting a cotton bandage during the meeting. These bandages would be good for beginning knitters, such as Girl Scout troops, she emphasized.

Further information for your own auxiliary's drug or bandage program will appear in our next issue or may be obtained from World Medical Relief, Inc., 11745 Twelfth Street, Detroit, Michigan 48206.

National Convention in Chicago

A most cordial invitation is extended to the members of auxiliaries to attend the forty-third annual convention of the Woman's Auxiliary to the American Medical Association in Chicago, June 26 to 30, 1966. Headquarters will be at the Drake Hotel. Mrs. Mitchell A. Spellberg and Mrs. John W. Koenig will be chairman and co-chairman of the local committee on arrangements.

Complete details as to program, etc., will appear in the May issue of MD's Wife. The following is a brief listing of activities to enable you to plan your schedule:

June 26: Because of the Opening Meeting of the AMA House of Delegates, there will not be a Tea this year. A reception, honoring the National President and President-elect, will be held Sunday evening from six to eight o'clock at the Drake Hotel—"Dutch Treat".

AMA Medicine and Religion Program, 8:00 P.M.

June 27: Formal opening of the convention.

Guest Day Luncheon for leaders of National Women's Volunteer Organizations, Auxiliary members and guests, 12:30 P.M., Gold Coast Room, Drake Hotel. Guest speaker will be Mr. Richard C. Cornuell, executive vice-president, National Association of Manufacturers.

Teen-Age Program: A very interesting and entertaining program for Pre-teens and Teen-agers of Auxiliary members is being developed by Gulliver Trails of New York. Complete details will appear in the May issue of MD's Wife.

We hope you like these plans and that you will take advantage of the many opportunities to hear the outstanding speakers, get current information on Auxiliary projects, and enjoy the social events.

Most sincerely,
Mrs. Richard A. Sutter, *President*
Woman's Auxiliary to the
American Medical Association

Projects Around the Old Dominion

Wise County—Mrs. Joseph M. Straughan reports a unique project from the auxiliary located in the heart of the well publicized Appalachia area. They have furnished nurseries for three home visitation teaching centers located at Big Stone Gap, Coeburn, and Pound. These teaching centers are conducted by AWARE (a community action organization). Providing nurseries at these centers was imperative for attendance of most mothers. Thus this project supplied a community need and supported another community organization.

Fairfax County—Mrs. Roland E. Bieren reports that with a great influx of population in this area, a need was felt for a complete health facilities listing service for the citizens, many military and government transients. This auxiliary has compiled and is printing such a booklet for distribution. This also is meeting a need and supporting existing health organizations.

Miscellaneous . . . .

Virginia Association of Medical Assistants

Norfolk—Here We Come

The Tidewater Association of Medical Assistants will be hosts for a Seminar to be held at the Admiralty Motor Hotel Sunday, May 22.

Mrs. Ruth Dize, a member of the Board of the American Association of Medical Assistants will be in charge of this meeting.

Following registration, Mrs. Donald Funk, a registered parliamentarian, will talk on "How Does Roberts Rule?" This is a very timely subject because if you have ever attended a meeting you can readily see the Pitfalls that can Bug a Moderator.

There will follow a coffee break and then Mrs. Nellie Bryan, coordinator of the Miss Virginia Pageant will speak on "Be a Personality".

After the luncheon, at which door prizes will be awarded, Mrs. Louise Quick, of the C & P Telephone Company, will discuss "Your Voice Is You". The Seminar will conclude with an address by Mr. Sid Oman, Doctor of Mortuary Science.

Doctors, you can see that this program is aimed at four very important subjects that should aid our office personnel in promoting better Public Relations in our offices—thereby improving the Public Image of the Physician in the eyes of the American Public—and goodness knows, it needs improving.

The Tidewater Chapter is not the only chapter that is doing everything possible to help the young ladies in our offices to help us. The Danville Association of Medical Assistants had their monthly meeting at which time Mrs. Lonie Kanak, President of the Virginia Association of Medical Assistants, was the invited guest and installed the new officers: Mrs. Pauline Rawley, President; Mrs. Thelma Thompson, President-Elect; Mrs. Virginia Mathewson, Secretary; and Mrs. Marie Mills, Treasurer. Among the invited guests were Dr. John Jarrett, Medical Director of the C & P Telephone Company, Dr. Milam, Dr. Henry Wiseman, and Dr. Henry Bourne, local Medical Advisor, and Mrs. Gene Garrett, Vive-President, Virginia Association of Medical Assistants.

Just to show you doctors the wide scope of activities of this group who are striving in many ways to increase their knowledge and thereby improve their efficiency in helping us doctors in the operation of our offices during a time of transition from the private care of patients and that imposed upon us by Medicare, the Roanoke Valley Association of Medical Assistants has sponsored a very effective Educational Program as follows:

A series of fourteen, one to two hour, lectures each Tuesday night beginning February 9, and ending April 5, covering subjects of vital interest to office assistants and knowledge of which will aid them greatly in their sincere endeavor to be of greater assistance in our offices.

So you see, Doctors, these ladies of the Virginia Association of Medical Assistants are availing themselves of every opportunity and, in some instances, making available to their colleagues opportunities to better fit themselves to be of greater service to us.

In view of all of this, don't you think it would be to our own advantage to encourage them to join this organization and, in appreciation of their desire to better themselves and at the same time render a greater help to us, to pay their dues in the local, state, and national association and by all means to allow them time off—and with pay—to attend meetings of their local, state, and national associations?

According to an old Chinese proverb, "*There are two ways to get to the top of an oak tree—You can climb it or you can sit on an acorn*". Definitely, these ladies have not chosen the latter, so let's provide the ladder.

JOHN WYATT DAVIS, JR., M.D.

Editorial . . . .

Holism, the Patient and the Doctor

ONE OF THE PROBLEMS that every physician deals with consciously or unconsciously and that he must resolve in some fashion or another as he practices medicine is that relating to his attitudes toward patients with organic and/or functional disease. When the words "organic" and "functional" are used, there is usually the further connotation that the "organic" is without emotional component, and the "functional" is without organic component. In the "organic" the symptoms and disease picture are due to demonstrable tissue change; in the "functional", the symptoms and disease picture are related to or caused by emotional disturbance or psychological factors without a demonstrable lesion.

An extreme example of a patient with "organic" disease is someone with a boil on his arm which responds promptly to incision and drainage and heals without residual. An extreme example of a patient with "functional" disease is someone who is frankly having a nervous breakdown and has numerous complaints without evidence of tissue pathology no matter how diligently such might be searched for. The trouble is, of course, that rarely in clinical medicine are such extreme examples encountered. There are few blacks and whites, but only shades of gray so that we find patients falling somewhere in the spectrum between pure organic and pure functional disease.

An extreme example of physicians' attitudes toward patients can be illustrated by the frequently used words of "good patient" when referring to those with organic disease and "crock" when referring to patients with functional disease (if the disturbance in function is on the basis of nervousness). Neither attitude, of course, is realistic. It is the rare organic disease that has no concomitant emotional reaction and, actually, nothing can be functional without also being organic, in the largest sense. Tachycardia, indigestion, headache, etc., frequently have measurable physiological changes, even though there are no demonstrable structural changes. Furthermore, rapidly increasing knowledge of cellular function suggests that biochemical changes are fundamental in the most "functional" cases. Philosophically and etymologically, disease simply means lack of ease. From this viewpoint, an acute anxiety attack, i.e., "functional", may be a more severe disease than renal colic, i.e., "organic".

There are many serious difficulties with an Either/Or concept when considering any given patient. Among these are, first, that it is altogether arbitrary. We may find ourselves in the interesting situation of allowing

an x-ray or an electrocardiogram to determine our feeling toward a patient. Then the questions of accuracy of our diagnostic methods and of the time required for demonstrable organic changes to develop after symptoms have become established must be raised. A number of examples come to mind. One that is particularly striking is that of a young soldier who developed nausea, vomiting, and epigastric discomfort while in combat. After a number of visits to his battalion surgeon, he was sent back to an evacuation hospital where a gastro-intestinal x-ray was negative, the diagnosis of functional vomiting was made, and he was evacuated to a general hospital. Here he was put on the Psychiatric Service, a repeat GI x-ray was negative, he was reclassified to limited duty with a diagnosis of psychoneurosis, anxiety hysteria, and was assigned to the Motor Pool of the hospital. A short time thereafter during one of his periods of morning nausea, he vomited about 500 cc. of blood, was immediately hospitalized on the medical ward, and over a period of several days his life was in question as he continued to bleed. A GI x-ray now showed a large duodenal ulcer, and he was sent back to the United States with this medical diagnosis. The question might well be raised as to when he was "functional" and when he was "organic". He certainly received more sympathetic treatment after the x-ray showed a peptic ulcer.

Second, such a division suggests an antagonism between functional and organic disease, that they are mutually exclusive. Not only are they not mutually exclusive but the usual problem, rather than which is present, is how much of one and how much of the other and how much does one affect the other. Again a number of examples come to mind, an outstanding one being that of John Hunter, an English physician of the Eighteenth Century. Hunter was a brilliant but erascible and difficult man who had not applied himself in his younger days and actually had his opportunity in medicine only through the aid of his famous older brother. John Hunter's anginal attacks were beautifully described in detail by his brother-in-law, Home. Hunter himself recognized that these attacks were most apt to come on when he was in the throes of a strong, violent emotion but, strangely, were not brought on by the "gentler emotions". His death occurred on the day of a meeting of the Admissions Committee of the Hospital Board of which he was a member. Interestingly enough, he had told a friend of his that he hoped the Board meeting would not be a contentious one, for he feared that if it were, he might not survive it. The meeting was contentious, Hunter became enraged when several of his proteges were not accepted, and he died suddenly.

Third, it is dangerous to practice medicine with an Either/Or mind fixed. This suggests a finality about any given situation when, actually, we are dealing with patients who, by the very fact that they are alive, are bound to have a constantly changing situation. It is essential to be flexible and to reconsider the whole problem with an open mind at any time. A typical example is that of a middle-aged woman who had had bouts of diarrhea, particularly when tense or emotional, over a period of years. Repeated barium enema x-ray examinations had been normal, and her stool at no time had shown blood or pus, but considerable amounts of

mucus. She was considered to have functional mucous colitis. Over a period of a few months, however, her pattern of diarrhea had changed, she had some blood-streaking and cramping abdominal pain at the time of bowel movement, and a barium enema now showed a carcinoma of the sigmoid flexure.

Fourth, an Either/Or attitude is often disturbing to the doctor and to the patient. A physician's attitude toward the problem of organic or functional medicine must be resolved to his satisfaction else he will be uncomfortable and unhappy when dealing with one or the other. This in turn can affect deleteriously the doctor-patient relationship, one of the cornerstones in dealing satisfactorily with the patient regardless of what he has. If the physician is bored, antagonized, or uncertain when confronted with functional disease, or is overwhelmed, inadequate, or indecisive when dealing with organic disease, these attitudes will become apparent and will prevent him from treating the patient satisfactorily.

Actually, an organism is alive only by virtue of the fact that psyche and soma are united in a unity. The living organism is constantly reacting to the stimuli of its environment, adjusting to them and thus maintaining its equilibrium. The stages of inflammation that take place in a person who has acute appendicitis and the depression of a person who has lost his job are both attempts at maintaining an individual in the face of damaging stimuli. Both are equally real, and both are equally in need of adequate treatment.

The only conclusion that can be drawn from a consideration of all the facts and factors in a given case, then, is that any attempt to divide the patients into "organic" or "functional" categories is unwise and indeed foolish. Either/Or attitudes must be abandoned in favor of concepts of how much of the one and how much of the other is present in any case, and how does the one influence the other and, in analyzing treatment, what is to be the relative emphasis as the patient is considered as a whole.

W. T. Thompson, Jr., M.D.

The NCC and Medicare

MANY MEMBERS of The Medical Society of Virginia will be surprised to learn that they, by contributing to their local churches, have helped to finance an organization which for a number of years has urged Congress to pass the Medicare bill. The National Council of the Churches of Christ in the United States of America, to give its full name, or the NCC as it is generally known, purports to represent about 40,000,000 members of approximately 35 religious groups in this country. Virtually every Protestant congregation in the South, with the exception of those in Baptist churches, pays tribute to this organization. The sums overtly contributed by individual members of these captive churches are deceptively small and this is emphasized by supporters of the NCC, but in many faiths, various committees of the church organizations are subjected to additional cuts which means the total is considerable—

in fact last year the annual take of the NCC amounted to more than $15,000,000. About one-half of this came from denominational sources.

This permits, as in the case of Medicare, an impressive lobby, with the even more impressive intimation that these spokesmen represent millions of church members. Many legislators may be unaware that these individuals are faceless members who frequently do not approve of the various stands taken by the NCC but they have virtually no opportunity to express their dissatisfaction with the manifold activities of this socio-economic and politically oriented organization.

By the use, or rather misuse, of the words Christ and Church, this group achieves a preferential status which it exploits to the fullest. These masters of evasion and double talk engage in practices that would not bring credit to the market place. Like Humpty Dumpty, when the NCC uses a word it means just what it chooses it to mean, neither more nor less. Their spokesmen deny, for example, that they engage in lobbying—they merely take the "opportunity to present the concern and policies of the churches for consideration of the Congress of the USA." The Internal Revenue Service must take this at its face value for the NCC still enjoys a tax-free status.

The sponsorship of Medicare by the NCC is no more irresponsible in terms of the long range implications of this socialistic scheme than many of its other activities and pronouncements. Recently this organization played a major role in terminating Public Law 78 which permitted migrant workers from Mexico to cross the border in order to harvest crops in this country. As the result, in part, of its meddling in this matter, which had no conceivable religious implications, truck farmers throughout the country, and especially those on our Eastern Shore, suffered losses last year from inability to get workers to harvest their crops. This propensity of the NCC for giving gratuitous and misguided advice is not confined to our domestic problems. It feels equally at home on the international scene and does not hesitate to advise our country with regard to our dealing with Red China or the Viet Cong.

The provisions of Medicare doubtless will be broadened, especially just prior to federal elections, to include larger segments of the population. If the past is any guide to the future we may be sure the NCC will be in the forefront of those advocating more and more socialization of medicine.

How can those of us who feel that this organization should not and does not represent us succeed in divorcing ourselves from its self-appointed role as our spokesman? All efforts to make the NCC more responsive to the rank and file of the congregations it pretends to represent have fallen on deaf ears. A more positive approach is necessary. This will, in all probability, require the withholding of funds by individual givers, churches and denominations. Then, and not until then, can we have reason to hope that the NCC will confine its activities to more justifiable causes, or perhaps, better still, we may even hope it will cease to exist altogether.

H.J.W.

News . . . .

Calendar of Events

Virginia Diabetes Association—Scientific Program—Hotel Roanoke—Roanoke—May 12, 1966.

Virginia Academy of General Practice—16th Annual Scientific Assembly—Hotel Roanoke—Roanoke—May 12-15, 1966.

Tennessee Heart Association—Scientific Session—Gatlinburg, Tennessee—May 19-21, 1966.

Virginia Heart Association—Annual Meeting—Natural Bridge—May 20-21, 1966.

AMPAC National Workshop—Sheraton Park Hotel, Washington, D. C.—May 21-22, 1966.

Medical College of Virginia Alumni Association—Annual Meeting—Hotel John Marshall, Richmond—June 4-5, 1966.

Symposium on Recreation for the Handicapped Child—Children's Rehabilitation Center—Charlottesville—June 22-24, 1966.

American Medical Association—Annual Convention—Chicago, Illinois—June 26-30, 1966.

7th Annual Symposium on Clinical Aspects of Renal Disease—Ischemic Heart Disease and Cardiac Diagnosis—Sponsored by Tidewater Heart Association & Council on Clinical Cardiology, American Heart Association—Cavalier Hotel, Virginia Beach—June 30-July 2, 1966.

Virginia Medical Service Association—Annual Meeting—Williamsburg—July 15, 1966.

Virginia Council on Health and Medical Care—Health Executives Workshop—Natural Bridge—August 17-19, 1966.

6th Annual Charlotte Postgraduate Seminar—Presbyterian Hospital Auditorium—Charlotte, N. C.—September 21-22, 1966.

Pediatric Post-Graduate Conference on Pediatric Cardiology—University of Virginia School of Medicine—Charlottesville—October 6-8, 1966.

American College of Surgeons—Annual Clinical Congress—San Francisco, California—October 10-14, 1966.

Program on Gastroenterology—University of Virginia School of Medicine—Charlottesville—October 28. (6 hours—6 guest professors)

The Medical Society of Virginia—Annual Meeting—Williamsburg—November 6-9, 1966.

Pulmonary Problems—University of Virginia School of Medicine—Charlottesville—November 18-19, 1966. (9 hours)

New Members.

The following members were received into The Medical Society of Virginia during the month of March:

James Blaine Blayton, M.D., Williamsburg

Alston Wilcox Blount, Jr., M.D., Richmond

Guenter Hans Boehmer, M.D., Norfolk

Thomas Phillip Davis, M.D., Christiansburg

Ambler Ray Goodwin, M.D., Norfolk

William Sims Grabeel, M.D., Gordonsville

Charles M. Graham, Jr., M.D., Radford
Charles L. Johnston, Jr., M.D., Richmond
Verbon Eric Kemp, Jr., M.D., Richmond
William B. Looney, M.D., Charlottesville
Burton Alan Moss, M.D., Norfolk
Edwin S. Munson, M.D., Charlottesville
Antonio Miguel Nova, M.D., Richmond
Abelardo A. Ruiz, M.D., Portsmouth
James Alexander Smith, M.D., Richmond
Evan C. Stone, Jr., M.D., Alexandria
Archibald Cunningham Wagner, M.D., Warrenton
Kennon C. Walden, M.D., Bedford
Stuart Harold Wax, M.D., Charlottesville
Edward Woodward, Jr., Richmond

New Committee.

Dr. Alexander McCausland, President of The Medical Society of Virginia, has named Dr. Frank A. Wade, Roanoke, as chairman of a new committee on Heart, Cancer and Stroke. Other members are Drs. J. E. McClellan, Newport News; Alvin P. Long, Jr., Portsmouth; Arthur B. Gathright, Richmond; Anthony J. Munoz, Farmville; W. J. Hagood, Clover; James C. Respess, Charlottesville; Robert A. A. Mackintosh, Vienna; James L. Chitwood, Pulaski; and O. Anderson Engh, Arlington.

Virginia Urological Society.

Dr. William F. McGuire, Pulaski, has been named president of this Society. Dr. H. W. Rowland, Richmond, is vice-president, and Dr. William Sipe, Newports News, secretary-treasurer.

Dr. John A. Gill,

Richmond, was key speaker at the annual scientific meeting of the American Academy of Facial Plastic and Reconstructive Surgery held in San Juan, Puerto Rico, April 14-16. He presented a paper on Management of Latent Effects of Bony Orbital Injury.

Dr. Leslie E. Rudolf,

University of Virginia, has been named a John and Mary R. Markle Foundation Scholar. The purpose of the Markle Foundation program is to improve medical education and research by giving recognition and financial support to promising young teachers and investigators to help them prepare for positions of leadership in academic medicine.

Dr. Rudolf is assistant professor of surgery and his main research interest centers about organ and tissue preservation and transplantation.

Virginia Tuberculosis and Respiratory Disease Association.

Dr. Edward S. Ray, Richmond, has been elected president of this Association and Dr. John L. Guerrant, Charlottesville, second vice-president.

Dr. Dammann Honored.

Dr. J. Francis Dammann, Jr., professor of surgical cardiology and pediatrics at the University of Virginia, recently received the Theodore and Susan Cummings Humanitarian Award. This was presented at a meeting of the American College of Cardiology and was special recognition of his activities in the circuit program of the college's overseas education committee. A year ago Dr. Dammann was a member of a team of five physicians who went to Iran, Egypt and Lebanon.

Dr. Harshbarger Receives Award.

Dr. J. C. Harshbarger, Harrisonburg, has been presented the Exchange Club Book of Golden Deeds Award. This was the clubs first presentation and is in recognition of "the good deeds of people in every day life".

Dr. David M. Hume,

Professor of Surgery at the Medical College of Virginia, was Visiting Professor of Surgery and Surgeon-in-Chief *Pro Tempore* at the Peter Bent Brigham Hospital, Boston, March 7-12. On the 12th he presented to the medical public a lecture on "Clinical Organ Homotransplantation: Progress, Problems and Prognostication".

Dr. Edward M. Eppes, III,

Richmond, has been appointed physician for the Richmond Police Bureau. He is also physician to the Fire Bureau.

Dr. Charles H. Peterson, Jr.,

Has opened his office in Salem and will take over the practice of Dr. Russell B. Smiley who has left for service in the Air Force. Dr. Peterson has been in practice in Roanoke.

A. H. Robins Company

Of Richmond, has announced plans to double the size of its research center. Work is scheduled to begin in July and will be completed in a year. This will be the seventh expansion of the Company's present facilities and will add 54,000 square feet of space on two floors and a basement. Certain areas of the existing building will be remodeled and an adjacent parking lot will be enlarged to accommodate 150 cars.

1966 Medical Economics Award.

A 10-day expenses paid luxury vacation for two at an exclusive resort in the Bahamas is the top Medical Economics Award for the "best original article by a physician". Two runners-up will receive cash awards of $500 each. The 1965 winner was Dr. Michael J. Moore, Roanoke.

All entries from doctors postmarked by August 31 will be considered. Manuscripts or requests for more information should be addressed to the Awards Editor, Medical Economics, Oradell, New Jersery 07649.

Drug Bank Program.

The Richmond Area Arthritis Foundation has begun a program for needy arthritics which enables them to obtain their prescription drugs at cost or below. The patient must be certified by his physician and only Richmond, Chesterfield and Henrico County residents are eligible. Additional information may be obtained from the Foundation.

Annual Award Contest.

The Academy of Psychosomatic Medicine announces the annual award contest for the best paper (not over 4000 words) on a clinical or research subject in the field of psychosomatic medicine. The winner will deliver his paper at the annual convention of the Academy in Las Vegas, Nevada, December 1966. Travel expenses will be paid to and from the meeting.

The deadline for submission of manuscripts is August 1st. For full particulars, write to Benjamin Schneider, M.D., Chairman, 123 East Market Street, Danville, Pennsylvania.

Pediatrician Wanted.

Under 35. For twenty-partner Southern California specialty group. Partnership potential after first year. Administrator, Gallatin Medical Group, 10720 South Paramount, Downey, California. (*Adv.*)

Urologist Wanted

For specialty group in California. Write #65, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Surgeon Desires Location.

General surgeon, age 31, married, desires location or association in Virginia. Available July 1966. Write "Surgeon", care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Associate or Partner Wanted.

G. P. in Northern Virginia, Washington, D. C. suburb. Booming practice with unlimited possibilities. Unusual opportunity for early full share. Write #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Physician Wanted.

Internist to work twenty hours a week in Preventive Medicine in Richmond Industry.

Write #85, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Physicians Wanted.

District Health Director A—Duties involve administration of State-local public health and medical assistance programs in a local health district serving less than 100,000 population. In-service training is provided, plus state-financed postgraduate study leading to Master Public Health Degree. Benefits include sick leave, vacation, group life insurance, malpractice insurance, travel reimbursement and retirement income. Qualifications—American citizen, eligibility to practice medicine in Virginia and two years of experience in general practice, public health or public-health-related practice (i.e., industry, military). Salary—$14,328 to $16,400 depending on qualifications.

District Health Director B—Duties involve administration of State-local public health and medical assistance programs in a local health district serving over 100,000 population. Benefits include sick leave, vacation, group life insurance, malpractice insurance, travel reimbursement and retirement income. Qualifications — American citizen, eligibility to practice medicine in Virginia and Master Public Health Degree. Salary—$15,675 to $19,600 depending on qualifications.

For further information write R. W. Jessee, M.D., Director, Division of Local Health Services, Virginia State Department of Health, 1314 East Grace Street, Richmond, Virginia 23219. (*Adv.*)

Young Doctor Wanted

To take over general practice in Richmond for five weeks, June 11 through July 16. Most of work is in office and registered nurse of 12 years experience will be present. May use my car and home if desired. A mature senior student might be acceptable. No Wednesday afternoon hours and no Saturday hours. Write #90, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

General Practitioner.

Group of three general practitioners in Richmond are interested in obtaining an associate to later become a partner. Phone Richmond BE 2-1108. (*Adv.*)

Wanted.

Two general practitioners to cover emergency clinic and emergency in-patient care in a 225 bed general hospital. Good salary. Contact K. L. Gallier, Administrator, McLeod Infirmary, Florence, South Carolina. (*Adv.*)

Obituary . . . .

Dr. Seab Arnold Tuck,

Pembroke, died March 3rd following a heart attack. He was sixty-nine years of age and a graduate of Emory University School of Medicine in 1920. Dr. Tuck practiced for a year in his hometown of Loganville, Georgia, and for a year in West Virginia, before locating in Giles County at Eggleston. He moved to Pembroke in 1930. He was a past president of the Giles Memorial Hospital Medical Staff and was for several years a member of the Executive Committee of the Hospital's Board of Trustees. He had been a member of The Medical Society of Virginia for forty-two years.

His wife, a son and three daughters survive him.

Dr. John Wendell Oast, III,

Norfolk, died March 9th at the age of forty-nine. He was a graduate of the University of Virginia in 1942. Dr. Oast was a member of the medical staffs of DePaul and Norfolk General Hospitals. During World War II he served as battalion surgeon with the rank of major in Italy and was awarded the Bronze Star for valor in action. Dr. Oast had been a member of The Medical Society of Virginia for twenty years.

His wife survives him.

Dr. Carter.

Dr. Charles Thomas Carter, a practicing physician in the City of Danville for sixty-eight years, died at the age of 90 on February 19, 1966.

Dr. Carter, the second generation in his family to join the medical profession, was born on July 29, 1875, to Dr. George A. Carter and Betty Womack Carter, at the old family home at Carter Springs, near Danville.

Educated at Danville Military Institute and University College of Medicine, Richmond (now Medical College of Virginia), he received his medical degree in 1897, and remained in active practice until 1965. It was he who was the attending physician at the Wreck of the '97.

In 1916, he was married to the former Miss Elizabeth Hodges of Caswell County, who survives.

Dr. Carter was a devoted member for more than fifty years of Main Street Methodist Church. He was on the staff of Memorial Hospital of Danville, and a member of the Danville-Pittsylvania Academy of Medicine and The Medical Society of Virginia.

Dr. Carter will long be remembered for his contribution to the community, and especially for his efforts in behalf of the organization and founding of the Memorial Hospital. He was highly respected by his professional associates, friends and patients.

THEREFORE, BE IT RESOLVED that we, the members of the Danville-Pittsylvania Academy of Medicine, extend our sympathy to his bereaved widow.

BE IT FURTHER RESOLVED that a copy of this resolution be sent to his widow, and to the Virginia Medical Monthly.

D. L. AREY, M.D.
J. J. NEAL, SR., M.D.
J. R. EGGLESTON, M.D.

Dr. Shuler.

On January 16, 1966, Dr. Benjamin C. Shuler died at his home in Shenandoah.

Dr. Shuler was born near Shenandoah, at Grove Hill on August 14, 1880. He was the son of the late George Thomas and Sarah Foltz Shuler.

He graduated from Shenandoah High School and from the University College of Medicine, in Richmond, in 1903. He did post graduate work in Eye, Nose and Throat at the Chicago Eye, Nose, and Throat College in 1922.

In 1953, Dr. Shuler was honored for his 50 years in the practice of medicine at "Dr. Shuler Day" at the Shenandoah Memorial Park, Shenandoah.

Dr. Shuler was a trustee and the oldest member of the St. Peter's Lutheran Church in Shenandoah. He was a Charter Member and Director of the First National Bank in Shenandoah, now the Virginia National Bank. He was also a Charter Member of the Shenandoah-Elkton Rotary Club.

In his profession, Dr. Shuler was a Charter Member of the Rockingham Memorial Hospital. The staff having been organized as such on February 13, 1939, and approved by the Governing Board on April 13, 1939. He was a member of the American Medical Association, Southern Medical Association, The Medical Society of Virginia and the Rockingham County Medical Society.

His quiet manner, cheerful smile with a little chuckle will long be remembered by his friends and most particularly by the people of the Community of Shenandoah.

Dr. Shuler had been in failing health for many years but during his terminal illness was sought professionally by one of his patients several days before his death.

He is survived by his wife, two sons, and five grandchildren.

WHEREAS, we, the Staff of the Rockingham Memorial Hospital, feel a great loss as the result of the death of our oldest Staff member and who was a Charter member of the Staff and who gave his services devotedly, without reservation to his profession for a period of more than sixty years, and,

WHEREAS, his activities on behalf of his patients, friends, and to the profession were marked by a spirit of conscientious and unselfish service.

THEREFORE, BE IT RESOLVED that this memorial shall be preserved in the Records of the Staff of the Rockingham Memorial Hospital and shall be sent to the Rockingham County Medical Society and The Medical Society of Virginia.

BE IT FURTHER RESOLVED that copies be forwarded to the family of Dr. Shuler as an expression of our sympathy.

J. E. WINE, M.D., *Chairman*
J. J. WAFF, M.D.
C. C. POWEL, M.D.

Dr. Shaver.

On January 26, 1966, Jack Stone Shaver was called to an early reward by his Maker. Born in Mauertown, Shenandoah County, November 22, 1920, he attended the public schools of Woodstock, Massanutten Military Academy, Roanoke College and the Medical College of Virginia.

He entered the U. S. Army while still a medical student in 1943 and was discharged as a Captain in 1945. He served his internship at the U. S. Marine Hospital, Norfolk. Jack continued his interest in the National Guard and had attained the rank of Major at the time of his death. He was greatly interested in the Guard's activities and participated with considerable interest.

After completing his internship, Jack established private practice at Big Rock in Buchanan County, where he remained about eighteen months. In 1950, he moved to Elizabethton, Tennessee.

At the request of his many friends, he returned to his home area, Woodstock and Mauertown, in 1956. He continued to practice here until 1964, when a coronary thrombosis curtailed his activities.

Always an ardent nature lover, Jack became an expert on birds while convalescing. This hobby was to be quite a comfort to him and of much interest to his friends.

A past-president of the Staff of Shenandoah County Hospital of Woodstock, and a devoted worker for this Institution, shortly after coming to Waynesboro, he was put to work on committees of the Waynesboro Community Hospital Staff and was Secretary of the Valley Medical Society in which he was quite active. He had been an untiring worker for the American Academy of General Practice.

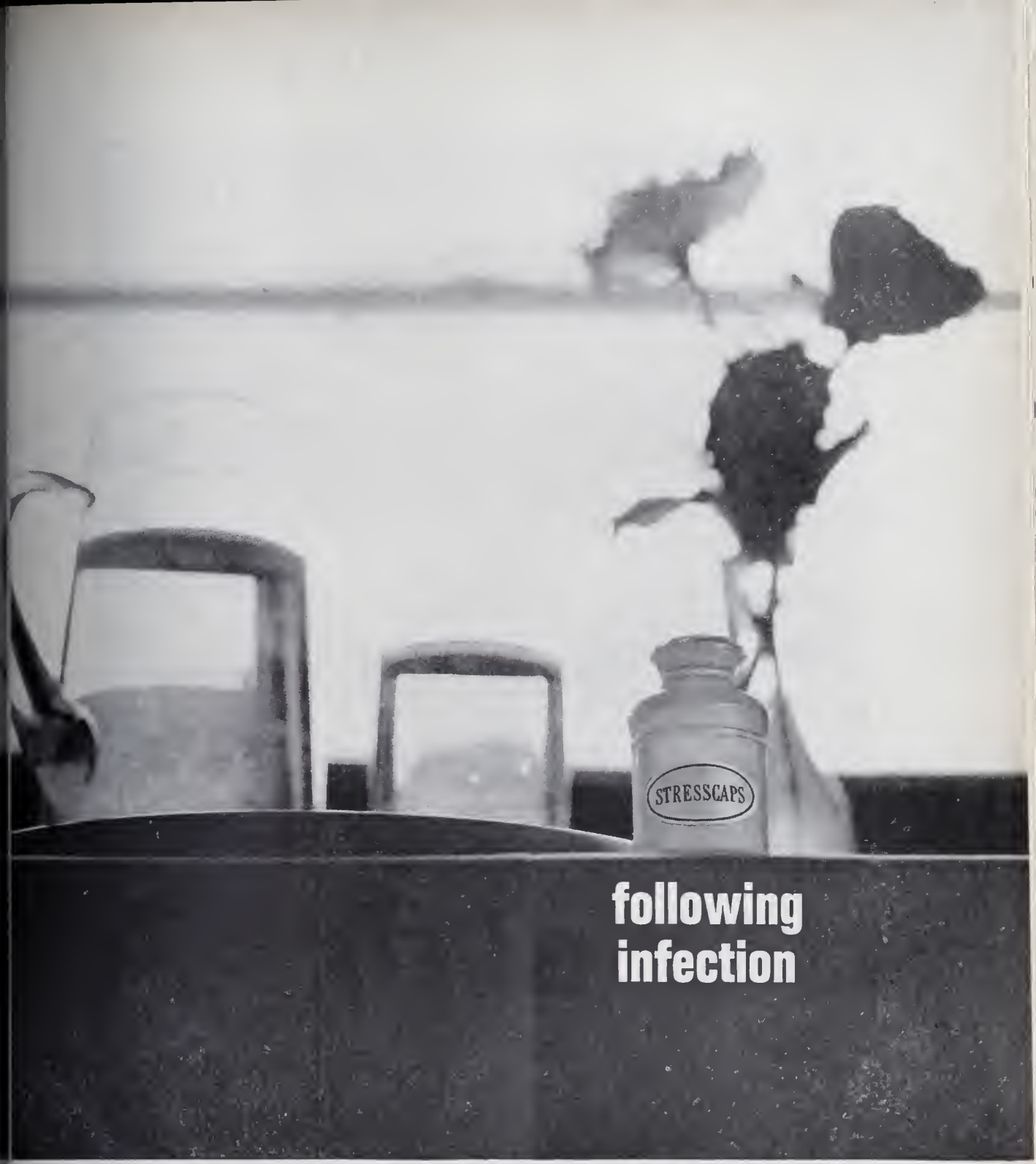
On August 1, 1964, Jack joined the Staff of the Medical Section of the Waynesboro Works of E. I. du Pont de Nemours & Company, Inc., where he was employed at the time of his death.

He is survived by his wife, two sons, a sister and his mother and father. His grandmother also survives.

The medical profession has suffered a major catastrophe in Jack's untimely death.

The Staff of the Waynesboro Community Hospital wishes to express to his family its deepest sympathy and resolves that this communication be spread upon the minutes of its meeting, published in the Virginia Medical Monthly and copies sent to members of his family.

J. Powell Anderson, M.D.
Werner J. Gatzek, M.D.
Charles L. Savage, M.D.



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DESBUTAL 15 Gradumet

15 mg. Methamphetamine Hydrochloride,
90 mg. Pentobarbital Sodium



Front Side

samples available



Each sample contains 6 tablets and a filled Sucaryl® Sweetener dispenser. For a supply, write Abbott Laboratories or ask your Abbott man.



economy

Patients, in many cases, save enough to get five weeks of medication for the price of four, compared to other leading long-release anorectics.

CONTRAINDICATION: Desoxyn and Desbutal are contraindicated in patients taking a monoamine oxidase inhibitor.

PRECAUTIONS: Use with caution in patients with hypertension, cardiovascular disease, hyperthyroidism, old age, or those sensitive to sympathomimetic drugs or ephedrine and its derivatives. Careful supervision is advisable with maladjusted individuals.

ABBOTT

Gradumet—long-release dose form, Abbott: U.S. Pat. No. 2,987,445.
Sucaryl—Abbott brand of low and non-caloric sweeteners.

601060



brings peace to the hyperactive colon

CANTIL®
(mepenzolate bromide)

helps restore normal motility and tone

"In 40 of 44 cases of irritable or spastic colon, Cantil [mepenzolate bromide] or Cantil with Phenobarbital reduced or abolished abdominal pain, diarrhea and distention and promoted restoration of normal bowel function . . . Cantil [mepenzolate bromide] proved to be singularly free of anticholinergic side-effects . . . Urinary retention, noted in two cases was eliminated in one by reducing dosage."[1]

IN BRIEF: One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth or blurring of vision may occur but it is usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy—withhold in glaucoma. Cantil with Phenobarbital is contraindicated in patients sensitive to phenobarbital.

Supplied: CANTIL (mepenzolate bromide)—25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL—containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

1. Riese, J. A.: Amer. J. Gastroent. 28.541 (Nov.) 1957

LAKESIDE LABORATORIES, INC. Milwaukee, Wisconsin 53201

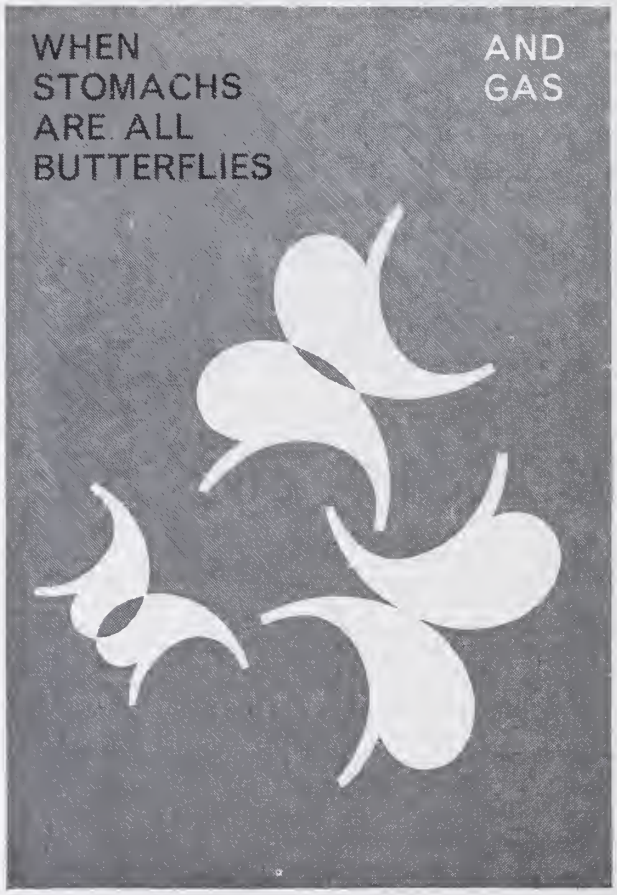
LAKESIDE

PRODUCTS
FOR PATIENTS
YOU SEE
EVERY DAY

DACTILASE®

Each tablet contains:
Dactil® (piperidolate hydrochloride), 50 mg.;
Standardized cellulolytic* enzyme, 2 mg.;
Standardized amylolytic enzyme, 15 mg.;
Standardized proteolytic enzyme, 10 mg.;
Pancreatin 3X** (source of lipolytic activity), 100 mg.; Taurocholic acid, 15 mg.

*Need in human nutrition not established.
**As acid resistant granules equivalent in activity to 300 mg. Pancreatin N.F.



In chronic or acute indigestion, fluttery, gassy stomachs obtain prompt, gratifying relief through the antispasmodic, surface anesthetic and enzymatic activity of Dactilase. Dactilase decreases hypermotility and pain and reduces the production of gas. Dactilase does not induce stasis, but helps restore normal tone. It has little or no effect on enzyme secretions, but *adds* enzymes, thus contributing to the digestive efficiency of the patient.

Side Effects and Contraindications: Dactilase is almost entirely free of side effects. However, it should be withheld in glaucoma and in jaundice due to complete biliary obstruction.

Administration and Dosage: One tablet with, or immediately following, each meal. Tablets should be swallowed whole.

Supplied: Bottles of 60 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE

PRODUCTS
FOR PATIENTS
YOU SEE
EVERY DAY

For cold hands and feet, nothing beats hot stoves—but they *are* awkward to carry around. Now Gerilid, in good-tasting take-along chewable tablets can provide rapid vasodilation of peripheral circulation, bringing real warmth to the extremities and decreasing sensitivity to sudden temperature change. Patients *like* Gerilid and *know* they are getting relief.

WARMTH FOR COLD HANDS AND FEET



GERILID™

Each chewable tablet contains: nicotinic acid (niacin) 75 mg. and aminoacetic acid (glycine) 750 mg.

Administration and Dosage: One or two chewable tablets 3 times a day before meals. If flushing is objectionable, dosage may be lowered. However, tolerance to flushing usually develops without loss of efficacy in regard to vasodilation. The recommended dosage should not be exceeded.

Side effects: Occasional lightheadedness or transient itching which may disappear with continued use. There are no known contraindications; however, caution is advised when there is a concomitant administration of a coronary vasodilator.

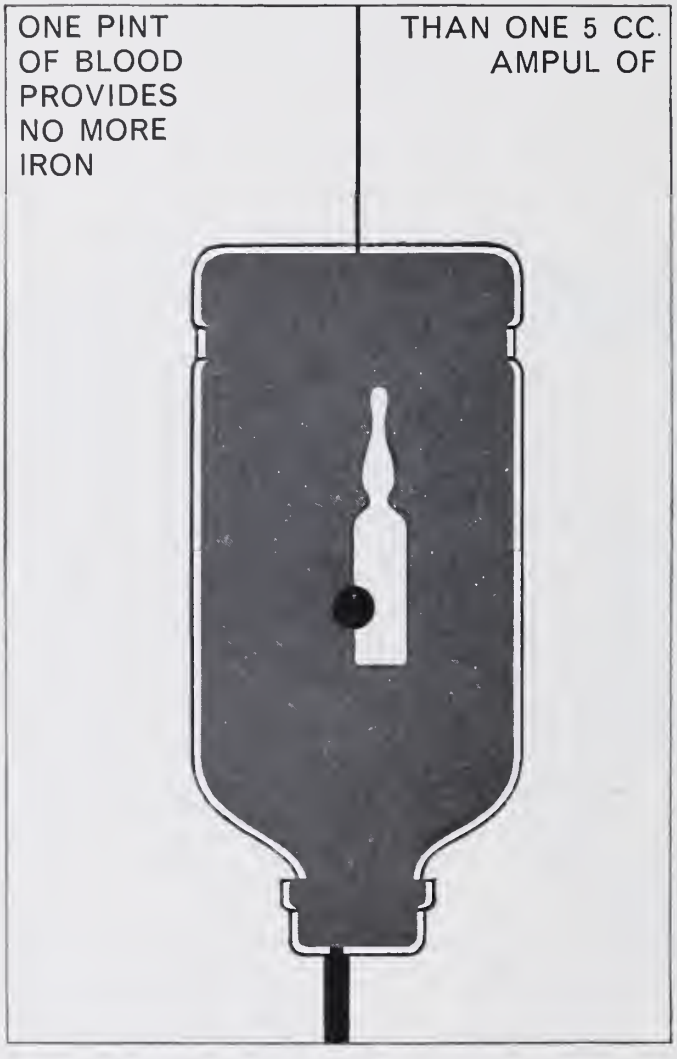
Supplied: Packages of 50 chewable tablets.

Also available in liquid form as Geriliquid®, in bottles of 8 and 16 ounces.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

Obstetrical or post—surgical patients requiring a dependable increase in hemoglobin will receive as much iron (250 mg. in a 5 cc. ampul) as in one pint of blood. Imferon (iron dextran injection) is less expensive and it avoids the well-recognized hazards of whole blood transfusion. When patients cannot—or cannot be relied upon to—take oral iron, Imferon (iron dextran injection) will rapidly supply needed iron for reserve stores.



IMFERON®
(iron dextran injection)

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a *source of iron;* infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. iron in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb. 100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported. Initial test doses of 0.5 cc. are advisable.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4; 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE
PRODUCTS
FOR PATIENTS
YOU SEE
EVERY DAY



METAHYDRIN (trichlormethiazide) is prescribed by physicians because it not only approximates the diuretic efficacy of parenteral meralluride injection . . . but, *it is the least expensive of all "brand-name" thiazides.* Therefore, when you prescribe METAHYDRIN (trichlormethiazide) your patients receive the thiazide diuretic that removes a little more salt and water than earlier thiazides, with relatively less loss of potassium . . . and, it's therapy they can more easily afford . . . *only pennies a day.*

METAHYDRIN®
(trichlormethiazide)
oral diuretic

Dosage: One 2 or 4 mg. tablet once or twice daily.

Precautions: As with all effective diuretics, vigorous therapy may produce electrolyte depletion. Patients with severely reduced renal function should be observed carefully since thiazides may be contraindicated. Care should be taken with patients predisposed to diabetes or gout. Patients with a tendency to potassium deficiency, as in hepatic cirrhosis or diarrheal syndromes, or those under therapy with digitalis, ACTH, or certain adrenal steroids, also should be watched carefully.

Side Effects: Nausea, flushing, constipation, skin rash, muscle cramps and gastric discomfort have occasionally been noted; rarely thrombocytopenia and bone marrow depression, photosensitivity, cholestatic jaundice, pancreatitis, perimacular edema, gout and diabetes have been caused by the administration of thiazides.

Contraindications: Complete renal shutdown; rising azotemia or development of hyperkalemia or acidosis in severe renal disease; demonstrated hypersensitivity.

How Supplied: Bottles of 100 and 1000 tablets.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

BRING IT DOWN AND KEEP IT DOWN



Metatensin lowers blood pressure and keeps it low—effectively and economically. It combines reserpine with trichlormethiazide which affords more potent saluresis with less loss of potassium than from earlier thiazides. Reserpine contributes antihypertensive effect by relieving anxiety and tension. Metatensin is well-tolerated over long periods; with its effectiveness and economy it assures antihypertensive therapy you and your patients can stay with.

METATENSIN®

Each scored tablet contains:
METAHYDRIN® (trichlormethiazide)
2 mg. or 4 mg. and
Reserpine 0.1 mg.

Usual adult dose: One tablet twice daily. **Precautions and side effects:** Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing steroids, should be observed for signs of hypokalemia. With thiazides, electrolyte depletion, diabetes, gout, granulopenia, nausea, pancreatitis, cholestatic jaundice, flushing, mild muscle cramps, constipation, photosensitivity, acute myopia, perimacular edema, paresthesias, neonatal bone marrow depression in infants of mothers who received thiazides during pregnancy, skin rash or purpura with or without thrombocytopenia, may occur. With reserpine, untoward effects may include depression, peptic ulcer and bronchial asthma. Withdraw medication at least 7 days prior to electroshock therapy, 2 weeks prior to elective surgery.

Contraindications: Complete renal shutdown, rising azotemia or development of hyperkalemia or acidosis in severe renal disease.

Supplied: Metatensin tablets, 2 mg., 4 mg.—bottles of 100 and 1000.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY



when the feeling of guilt overwhelms

NORPRAMIN®

(desipramine hydrochloride)

non-sedating · rapid-acting
ANTIDEPRESSANT

overcomes guilt, lifts depression, restores confidence

Feelings of guilt, worthlessness, emptiness and loss frequently characterize depression. Such feelings, along with insomnia, physical complaints, sadness, apprehension, and other symptoms of depression rapidly respond to Norpramin (desipramine hydrochloride). Improvement often begins in 2-5 days, sometimes in less. A few patients, sensitive to central nervous system stimulants may become restless as depression is lifted—in such cases dosage may be reduced or a tranquilizer added.

Indications: In depression of any kind—neurotic and psychotic depressive reactions; manic-depressive or involutional psychotic reactions. **Dosage:** Optimal results are obtained at a dosage of two 25 mg. tablets t.i.d. (150 mg./day). **Contraindications and Precautions:** Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease and epilepsy. Should not be given within two weeks of treatment with a monoamine oxidase inhibitor. Safety in human pregnancy has not been established. **Adverse Effects:** Side effects, usually mild may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste," sensory illusion, tinnitus, agitation and stimulation, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, allergy, transient eosinophilia, granulopenia, altered liver function, ataxia and extrapyramidal signs. **Supplied:** Norpramin (desipramine hydrochloride) tablets of 25 mg., in bottles of 50, 500 and 1000.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

In colicky infants Pediatric Piptal with Phenobarbital slows down spasm, diminishes pain and crying and improves feeding patterns. It permits sleep and rest for patient and family. The less than hypnotic amount of phenobarbital in the recommended dose affords a mild, calming action and enhances the antispasmodic action of Piptal (pipenzolate bromide). The latter drug, as reported in the medical literature, has a favorable ratio of effectiveness to side-effects which is unusual in anticholinergics and thus is particularly appropriate to pediatric use.



PEDIATRIC PIPTAL® WITH PHENOBARBITAL

each cc. contains 6 mg. phenobarbital (warning: may be habit forming); 4 mg. Piptal® (pipenzolate bromide), and 20% alcohol.

Pleasant-tasting Pediatric Piptal with Phenobarbital is miscible in milk, formulas and fruit juices, and may also be given by dropper directly on the infant's tongue. Dosage is 0.5 cc. 15 minutes before feeding; in severe cases, 1.0 cc. four times daily. High doses may occasionally cause constipation with tenesmus and, rarely, flushing without fever. It is contraindicated in bowel obstruction or sensitivity to phenobarbital or anticholinergics. Available in 30 cc. dropper bottles, droppers calibrated to deliver 0.5 cc.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY



ECONOMY

When you prescribe or recommend Allbee with C, you can be sure your patient is getting a rational, specific multivitamin formulation at an economical price. The potent formula is sensible and simple. It contains therapeutic amounts of the water-soluble B and C vitamins. These vitamins are expended rapidly in the body and need to be replenished frequently. There are no extraneous factors, no frills in Allbee with C. It's the no-nonsense vitamin in the yellow and green capsule that always gives your patient his money's worth.

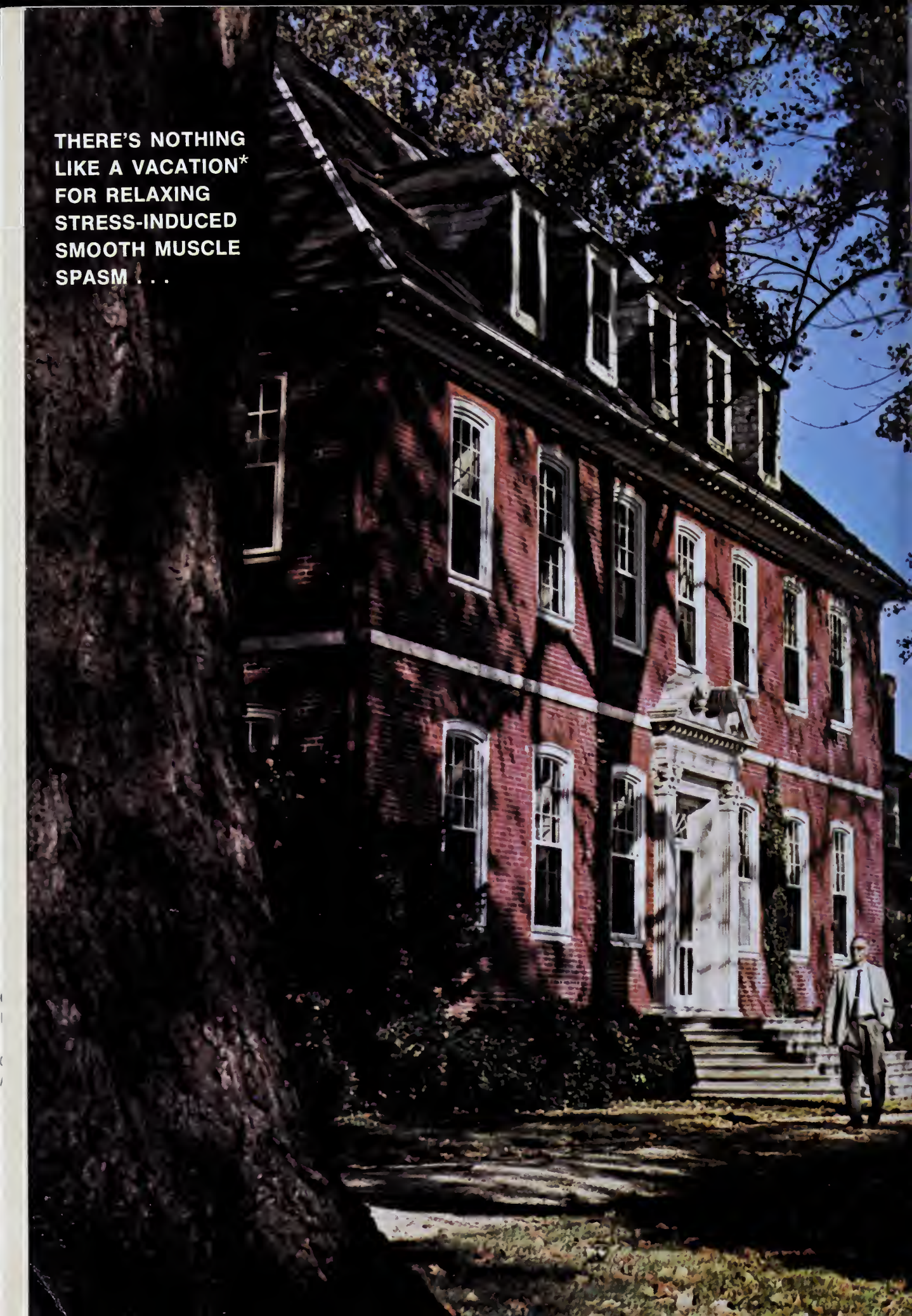
Each capsule contains: Thiamine mononitrate (B_1), 15 mg.; Riboflavin (B_2), 10 mg.; Pyridoxine hydrochloride (B_6), 5 mg.; Nicotinamide, 50 mg.; Calcium pantothenate, 10 mg.; Ascorbic acid (vitamin C), 300 mg.

A. H. ROBINS COMPANY, INC.
RICHMOND, VIRGINIA 23220

A·H·ROBINS

—a good reason for

ALLBEE® WITH C


THERE'S NOTHING
LIKE A VACATION*
FOR RELAXING
STRESS-INDUCED
SMOOTH MUSCLE
SPASM . . .

. . NOTHING, THAT IS,
EXCEPT THE SEDATIVE-ANTISPASMODIC
BENEFITS OF

DONNATAL®

IN EACH TABLET, CAPSULE, OR (5 cc.) OF ELIXIR

hyoscyamine sulfate	0.1037 mg.
atropine sulfate	0.0194 mg.
hyoscine hydrobromide	0.0065 mg.
phenobarbital	(1/4 gr.) 16.2 mg.

(warning: may be habit forming)

IN EACH EXTENTAB

hyoscyamine sulfate	0.3111 mg.
atropine sulfate	0.0582 mg.
hyoscine hydrobromide	0.0195 mg.
phenobarbital	(3/4 gr.) 48.6 mg.

(warning: may be habit forming)

There's nothing quite like a vacation to ease the pressures of the modern, "workingday" world. And for the patient who can't get away from it all, there's nothing quite like Donnatal to relax stress-induced smooth muscle spasm. For 31 years it has been the antispasmodic-sedative most often prescribed for relieving functional disturbances of tone and motility of the gastrointestinal tract.

belladonna alkaloids in optimally balanced ratio

In Donnatal, natural belladonna alkaloids are rationally balanced in a specific, fixed ratio that provides "the greatest efficacy with the smallest possible dose."[1] They avoid the clinical uncertainties of the variable tincture and extract of belladonna, and are considered superior in range of action to atropine alone.[2] Furthermore, they are generally recognized as being more effective than the synthetics for relieving visceral spasm.

phenobarbital for sedation

Years of clinical use have established phenobarbital as one of the most efficient and highly regarded sedatives. In fact, for general sedation it is the drug of choice.[3] In Donnatal, phenobarbital potentiates the spasmolytic effects of the belladonna alkaloids, lessening emotional tensions and checking the neurogenic impulses that trigger GI disorders.

more than 24 indications in PDR

Donnatal has withstood the test of time to become the classic sedative-antispasmodic because of its unsurpassed effectiveness, safety, economy, uniformity of composition, and dosage convenience. Its widespread acceptance and usage by the profession can also be attributed to its versatility in treating disorders characterized by smooth muscle spasm. There are more than two dozen distinct and separate indications for Donnatal listed in the current PDR.

BRIEF SUMMARY: Blurring of vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur on higher dosage levels, rarely on usual dosage. Administer with caution to patients with incipient glaucoma, or urinary bladder neck obstruction. Contraindicated in acute glaucoma, advanced renal or hepatic disease, or a hypersensitivity to any of the ingredients.

REFERENCES: 1. Vollmer, H.: Arch. Neurol. and Psychiat., 43:1057, 1940. 2. Morrissey, J.H.: J. Urology, 57:635, 1947. 3. Krantz, J.C., Jr., and Carr, C.J.: Pharmacological Principles of Medical Practice, 2nd ed., Baltimore (1954), 552.

*This one at Westover, elegant Colonial Virginia plantation, located on the James River near Richmond. Built in the early 1730's by William Byrd II, founder of Richmond, it is now the home of Mrs. Bruce Crane Fisher.

A. H. ROBINS COMPANY, INC., RICHMOND, VA.

A·H·ROBINS

New drugs take exams, too.

Today, virtually every medical school in the United States cooperates with pharmaceutical manufacturers in the clinical evaluation of new and promising drugs. Just as you might find it significantly more difficult to practice medicine without the useful new compounds made available through original pharmaceutical research in the past twenty years—prescription-drug manufacturers would find it equally difficult to obtain extensive, long-term, dependable evaluations of new therapeutic agents without the close cooperation of medical staffs and clinical facilities of medical schools and teaching hospitals. Such cooperation leads toward more effective care of more patients—the common goal of medical and pharmaceutical research—toward reduction in the cost of disease, toward increase in useful longevity.

This message is brought to you as a courtesy of this publication on behalf of the producers of prescription drugs.

Pharmaceutical Manufacturers Association
Pharmaceutical Advertising Council

1155 Fifteenth St., N. W., Washington, D.C. 20005



Night Leg Cramps...
Frequent Bedfellow in Diabetes, Arthritis, and Peripheral Vascular Disorders*



*"Nocturnal cramps occurring in the calf muscles and small muscles of the feet have been encountered in a significant number of diabetic patients."[1]

"... nocturnal cramps may be the presenting symptoms of patients with arteriosclerosis obliterans, deep thrombophlebitis, varicose veins, osteoarthritis..."[2]

now...specific therapy for night leg cramps

QUINAMM™

Consistently effective, QUINAMM provided complete relief in 94% of 200 patients studied, many of whom were severe cases refractory to other medication.[3] Your prescription for one tablet at bedtime often controls painful night cramps with the initial dose... helps restore restful sleep.

QUINAMM Prescribing Information: Composition: quinine sulfate 250 mg. and aminophylline 200 mg. per tablet. **Precautions:** aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue if ringing in the ears, deafness, skin rash or visual disturbances occur. Since Quinamm contains quinine sulfate, caution should be observed regarding administration during pregnancy. Dosage: 1 tablet three or four times daily. For nocturnal leg cramps, 1 tablet on retiring.

References: 1. Shuman, C.: Am. J. Med. Sci., 225:54, 1953. 2. Perchuck, E., et al.: Angiolagy, 12:102, 1961. 3. Rawls, W., et al.: Med. Times, 87:818, 1959.

WALKER *Laboratories* Division of Richardson-Merrell Inc. Mt. Vernon, New York 10551



An eminent role in medical practice

- Clinicians throughout the world consider meprobamate a therapeutic standard in the management of anxiety and tension.
- The high safety-efficacy ratio of 'Miltown' has been demonstrated by more than a decade of clinical use.

Miltown® (meprobamate)

Indications: 'Miltown' (meprobamate) is effective in relief of anxiety and tension states. Also as adjunctive therapy when anxiety may be a causative or otherwise disturbing factor. Although not a hypnotic, 'Miltown' fosters normal sleep through both its anti-anxiety and muscle-relaxant properties.

Contraindications: Previous allergic or idiosyncratic reactions to meprobamate or meprobamate-containing drugs.

Precautions: Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of pre-existing symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Usual adult dosage: One or two 400 mg. tablets three times daily. Doses above 2400 mg. daily are not recommended.

Supplied: In two strengths: 400 mg. scored tablets and 200 mg. coated tablets.

Before prescribing, consult package circular.

WALLACE LABORATORIES
Cranbury, N.J.

CM 9761



one mid-morning **one mid-evening**

New 300 mg tablet It's made for b.i.d.

For Adults–2 tablets provide a full 24 hours of therapy...with all the extra benefits of DECLOMYCIN...lower mg intake per day...proven potency... 1-2 days' "extra" activity to protect against relapse or secondary infection.

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE
300 mg FILM COATED TABLETS

Effective in a wide range of everyday infections —respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Warning — In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of discomfort.

Precautions and Side Effects — Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg of demethylchlortetracycline HCl.

Tablets: film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

Lederle

674-6—3838

at Merck Sharp & Dohme...



understanding... precedes development

The development of chlorothiazide and probenecid were events of major importance, but perhaps even more important for the future was the Renal Research Program by which they were developed. When Merck Sharp & Dohme organized this program in 1943, it was expressing in action some of its basic beliefs about research:

• Many problems connected with renal structure and function were still undefined or unsolved. The Renal Research Program would begin its basic research in some of these problem areas.

• From knowledge thus acquired might come clues to the development of new therapeutic agents of significant value to the physician.

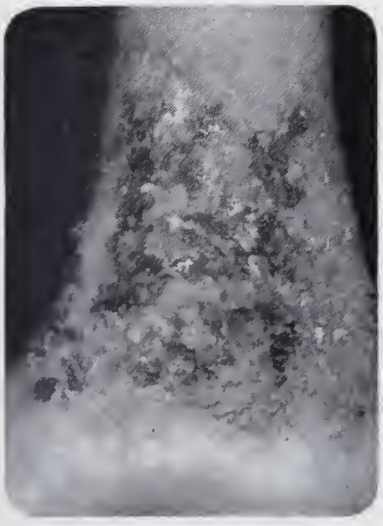
For example, the Renal Research Program put fifteen years into this search before chlorothiazide became available. But because these years had first led to a greater understanding of basic problems, the desired criteria for chlorothiazide existed before the drug was developed.

Along with other research teams at Merck Sharp & Dohme, the Renal Research Program continues to add new understanding of basic problems—understanding which will lead to important new therapeutic agents.

MERCK SHARP & DOHME Division of Merck & Co., Inc., West Point, Pa.

where today's theory is tomorrow's therapy

eczema: scourge of childhood



R. R., Age 11—Before treatment—atopic eczema of long standing



After treatment—with ARISTOCORT Topical Ointment 0.1% for two weeks

ARISTOCORT® Triamcinolone Acetonide Topicals have proved exceptionally effective in the control of various forms of childhood eczema: allergic, atopic, nummular, psoriatic, and mycotic.

In most cases responsive to topical ARISTOCORT, the 0.1% concentration is sufficiently potent. The 0.5% concentration provides enhanced topical activity for patients requiring additional potency for proper relief.

Administration and Dosage: Apply sparingly to the affected area 3 or 4 times daily. Some cases of psoriasis may be more effectively treated if the 0.1% Cream or Ointment is applied under an occlusive dressing.

Contraindications: Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

Precautions and Side Effects: Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive nonpermeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyodermas will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

Packages: Tubes of 5 Gm. and 15 Gm.; ½ lb. jar.

PHOTOGRAPHS COURTESY OF M. M. NIERMAN, M.D.

Aristocort® Topical Ointment 0.1% and Cream 0.1%, 0.5%
Triamcinolone Acetonide
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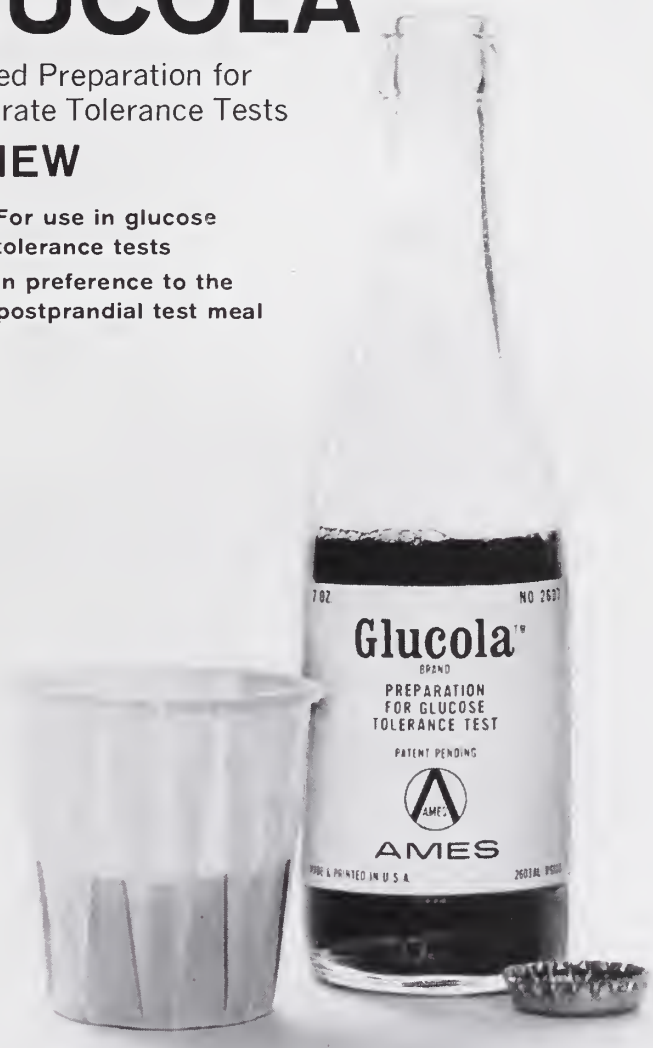
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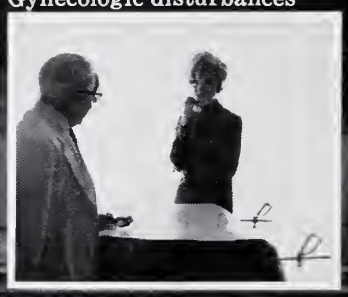
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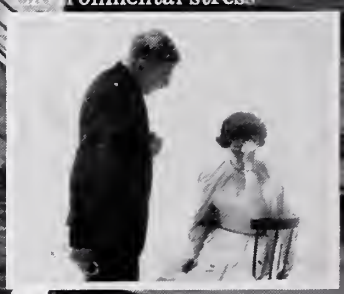
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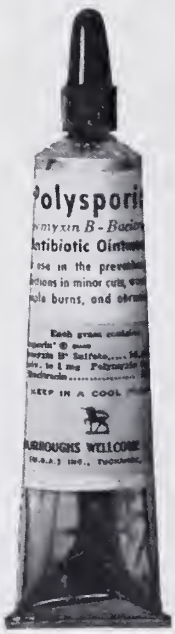
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Have YOU failed to make certain that you're well protected from the high costs of accident and sickness? If so, your budget is in danger of shattering any day now.

THE MEDICAL SOCIETY OF VIRGINIA has just the thing to relieve your anxieties about possible severe financial loss from accident or sickness:

- **Professional OVERHEAD Expense** to pay those fixed office expenses for you while you can't practice . . . and keep your office open!
- **"Catastrophic" HOSPITAL-NURSE Expenses** to meet those unexpected high costs from serious accident or sickness disability!

Both Plans go to work immediately, protecting your budget with their LOW-COST, BROAD COVERAGE ingredients.

Call us today—collect. Find out why The Medical Society of Virginia has selected these sensible Insurance Plans as the best available to its Members. We'll send you more information. No obligation, of course.

(But, plenty of smart financial advice!)

ADMINISTRATOR: David A. Dyer
Medical Arts Building,
Roanoke, Virginia 24011
Phone: 344-5000

Both Plans underwritten by:

AMERICAN CASUALTY COMPANY
OF READING, PENNSYLVANIA • 19603

Thanks to Dexamyl®

brand of dextroamphetamine sulfate and amobarbital

she can say "No thank you" to the crêpes suzette.

'Dexamyl' does more than most anorectics. Because it curbs appetite *and* lifts mood, 'Dexamyl' can encourage the discouraged dieter to stay on her diet.

The mood lift with 'Dexamyl' can make the difference between the success or failure of her diet plan.

Formulas: Each 'Dexamyl' Spansule® Capsule (brand of sustained release capsule) No. 1 contains 10 mg. of Dexedrine® (brand of dextroamphetamine sulfate) and 1 gr. of amobarbital, derivative of barbituric acid [Warning, may be habit forming]. Each 'Dexamyl' *Spansule* capsule No. 2 contains 15 mg. of Dexedrine (brand of dextroamphetamine sulfate) and 1½ gr. of amobarbital [Warning, may be habit forming].

Principal cautions and side effects: Use with caution in patients hypersensitive to sympathomimetics or barbiturates and in coronary or cardiovascular disease or severe hypertension. Insomnia, excitability and increased motor activity are infrequent and ordinarily mild.

Before prescribing, see SK&F product Prescribing Information.

Smith Kline & French Laboratories SK&F





makes sleep irresistible

nidar®

EACH TABLET CONTAINS:

Pentobarbital Sodium	25 mg.
Secobarbital Sodium	25 mg.
Butabarbital Sodium	7.5 mg.
Phenobarbital	7.5 mg.

(WARNING: MAY BE HABIT FORMING)

ARMOUR PHARMACEUTICAL COMPANY
Chicago, Illinois, U.S.A.

nidar®

Sleep comes easy...lingers...departs naturally

Gentle doses of 4 barbiturates assure uninterrupted sleep

2 barbiturates act fast...in 20 to 30 minutes

2 long-range barbiturates come into play to sustain sleep for up to 8 hours

Tiny amounts of individual barbiturates means Nidar is well tolerated

Patients enjoy a refreshing, clear-headed wake-up

makes sleep irresistible



IN BRIEF:

EACH TABLET CONTAINS:

Pentobarbital Sodium	25 mg.
Secobarbital Sodium	25 mg.
Butabarbital Sodium	7.5 mg.
Phenobarbital	7.5 mg.

(WARNING: MAY BE HABIT FORMING)

Dosage: One or two tablets, one-half hour before bedtime.

Indications: For night-time sedation and refreshing sleep up to eight hours.

Contraindications: Patients sensitive to barbiturates. Use with caution in the presence of moderate to severe hepatic disease.

Supplied: Bottles of 100 tablets.

CAUTION: Federal law prohibits dispensing without a prescription.

ARMOUR PHARMACEUTICAL COMPANY
Chicago, Illinois, U.S.A.



following infection

B and C vitamins are therapy: STRESSCAPS B and C vitamins in therapeutic amounts... help the body mobilize defenses during convalescence... aid response to primary therapy. The patient with a severe infection, and many others undergoing physiologic stress, may benefit from STRESSCAPS capsules.



Stresscaps®

Stress Formula Vitamins Lederle

FOR PROFESSIONAL RECOMMENDATION ONLY

Each capsule contains:	
Vitamin B_1 (as Thiamine Mononitrate)	10 mg
Vitamin B_2 (Riboflavin)	10 mg
Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

Lederle

626-6—3612

When uncontrolled diarrhea brings a call for help



When the diarrhea sufferer has run the gamut o home remedies without success, pleasant-tastin CREMOMYCIN can answer the call for help. It can b counted on to consolidate fluid stools, soothe inte tinal inflammation, inhibit enteric pathogens, an detoxify putrefactive materials — usually within few hours.

CREMOMYCIN combines the bacteriostatic agents succinylsulfathiazole and neomycin, with the ac sorbent and protective demulcents, kaolin and pec tin, for comprehensive control of diarrhea.

INDICATIONS: Diarrhea.

CONTRAINDICATIONS: Do not use in intestinal obstruction, e tensive ulceration of bowel, or diverticulosis; in hypersensitivi to sulfonamides or neomycin; in pregnancy at term, in prematur infants, or during first week of life in the newborn.

WARNINGS: Use only after critical appraisal in patients wit hepatic or renal damage, urinary obstruction, or blood dyscr sias. Fatal hypersensitivity reactions and blood dyscrasias r ported with use of sulfonamides. Consider periodic blood count hepatic and renal function tests during intermittent or chron use.

PRECAUTIONS: Succinylsulfathiazole: Use with caution if ther is history of significant allergies and/or asthma. Continued us requires supplementary vitamins B_1 and K. *Neomycin:* Watch fo

your ℞ for Cremomycin can provide relief



-like neuromuscular block during anesthesia if neomycin
d preoperatively in large doses when renal function is
watch for overgrowth of nonsusceptible organisms. Con-
possibility of ototoxicity and nephrotoxicity with prolonged
osage.

FFECTS: As with all sulfonamides: Headache, malaise, an-
G.I. symptoms, hepatitis, pancreatitis, blood dyscrasias,
athy, drug fever, rash, conjunctival and scleral injection,
iae, purpura, hematuria, and crystalluria have been noted.
ed fecal output of thiamine and decreased synthesis of
n K have been reported. *Neomycin:* Nausea, loose stools.

prescribing or administering, read package circular with
t or available on request.

mptly relieves diarrheal distress

remomycin®

TIDIARRHEAL

sition: Each 30 cc. contains neomycin sulfate 300 mg.
alent to 210 mg. of neomycin base), succinylsulfathiazole
., colloidal kaolin 3.0 Gm., pectin 0.27 Gm.

MERCK SHARP & DOHME Division of Merck & Co., Inc., West Point, Pa.

re today's theory is tomorrow's therapy

Right there where he's needed



...due to LEPTINOL®

Improvement of mental alertness and awareness in the management of the senility syndrome requires a comforting environment, a stimulating dietary regimen and concomitant drug therapy. LEPTINOL® is a non-addictive stimulant which is a useful adjunct in elevating the mood of the elderly patient who displays apathy, mental confusion or memory lapses.

LEPTINOL® is a combination of pentylenetetrazol, niacin, thiamin and ascorbic acid which acts as a central nervous stimulant and which exerts its primary effect on the mid-brain and the medullary center. LEPTINOL® may be prescribed for patients with mild hypertension or other organic diseases.

Each LEPTINOL® bi-layer tablet contains: PENTYLENETETRAZOL, 100 mg., NIACIN, 50 mg., THIAMINE HYDROCHLORIDE, 1 mg., ASCORBIC ACID, 20 mg. DOSE one or two tablets, 3 times daily.

Side Effects: overdosage may produce tremor, convulsions or respiratory paralysis.

Caution should be taken when treating patients with a low convulsive threshold. Patients should be warned not to exceed recommended dose which offers maximum effectiveness.

Write for detailed literature and starter LEPTINOL® doses.

THE VALE CHEMICAL COMPANY, INC.

VALE

Pharmaceuticals
Allentown, Pennsylvania

Bamadex® Sequels®

Contraindications: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised; especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of pre-existing symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dose—operation of motor vehicles, machinery or other activity requiring alertness should be avoided. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia, the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor, and respiratory collapse.



First aid for a
button popper



Second aid for a
button popper

Bamadex® Sequels®

d-amphetamine sulfate (15 mg.) and meprobamate (300 mg.) Sustained Release Capsules

By providing combined anorexigenic-tranquilizing action, BAMADEX SEQUELS Capsules help your nonshrinking patients to establish new patterns of eating less. The amphetamine component suppresses the appetite, while the meprobamate helps allay nervousness and tension. And for most patients, the *sustained* release of the active ingredients makes possible convenient one-capsule-a-day dosage.

LEDERLE LABORATORIES · A Division of American Cyanamid Company, Pearl River, New York

Lederle

.6655


too young
to be so tired...

revive interest...restore activity promptly with Alertonic®

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline†, 100 mg.; inositol†, 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.



the need for a tonic knows no age

Life *can* begin at forty—except when functional fatigue causes her to feel tired all the time; to start losing interest in friends and surroundings; to look and act older than her years. Alertonic—*a prescription tonic*—can help your patient become her normal self again. Alertonic helps relieve mild depression, revive interest and restore purposeful activity promptly...with a formula that is efficient *and* economical. Alertonic contains a mild central stimulant (pipradrol hydrochloride), 15% alcohol, essential vitamins and minerals. No hormones or MAO-inhibiting drugs are included. No iron. No iodine. One pleasant-tasting tablespoonful before each meal comprises the usual daily dose.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS-stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive-compulsive states.

Side Effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio/Weston, Ontario

Merrell

Who says nobody appreciates your sacrifices?

"Medicine is a glamorous profession."

Medicine is a glamorous profession. Doctors are just in it for the money.' Sure they are. That's why they go to college for eight years. Study half the night. Live on peanuts (almost literally) while they spend more years interning. And studying some more. Then they start practicing. And remember, they're not handed a practice on a silver platter, either. Then there's equipment to buy. Lots of it. Expensive equipment. Then when they do build up a practice, think of the hours. On call 24 hours a day, 365 days a year. So you think it's a glamorous profession? And that doctors are just in it for the money? We'd like to ask you that some morning about 3:30 A.M. maybe, after your wife had just had a baby. Or some day after your son had fallen out of a tree. Or you had to be helped . . fast. Sure, it's a glamorous profession, alright. We at Peoples are proud to be working so closely with the dedicated doctors we serve. And we're always ready to serve you, too . courteously, efficiently, professionally.

Photographed at the George Washington Hospital



ALL PEOPLES DRUG STORES FILLED 6,321,215 PRESCRIPTIONS IN 1964 . . . A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES!

PEOPLES
PRESCRIPTION DRUG STORES

Number 3 of a series published in Washington, D.C. newspapers

Just in case you think you aren't appreciated—read a Peoples advertisement sometime! Here, we reminded people of your years of study, of your dedication, of your untiring efforts. And yes, we have to admit it—we did have one small sentence in that ad that patted Peoples on the back!

PEOPLES PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1965 • A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES

Doctor,

Here is the Abbott anorectic program designed to meet the individual needs of your overweight patients.



mood elevation

Abbot
Anorectic
Program

DESOXYN® Gradumet® (methamphetamine hydrochloride)

Smooth appetite control plus mood elevation.

The obese patient on a diet often has to battle depression as well as overweight. Desoxyn Gradumet helps the dieter in both battles by elevating the mood while it curbs the appetite. Thanks to the Gradumet, medication is smoothly released all-day from a single oral dose.

If she can't take plain amphetamine, put her on DESBUTAL® Gradumet

Calms anxieties; controls compulsive eating.

Desbutal Gradumet provides 2 drugs in 2 tablet sections, combined back to back to form a single tablet. One section contains Desoxyn to curb the appetite and lift the mood; the other contains Nembutal® (pentobarbital) to calm the patient and counteract any excessive stimulation.

Both drugs are released in an effective dosage ratio throughout the day.



controlled release

Abbott
Anorectic
Program

Not all long-release vehicles are the same. Here is why the Gradumet is different and what it means for your overweight patients.



The release action is purely physical and relies on only one factor common to every patient: gastrointestinal fluid. There is no dependence on enteric coatings, enzymes, motility, or an "ideal" ion concentration in the gastrointestinal tract.

Your patients get a measured amount of medication, moment by moment, throughout the day. They are not subjected to ups and downs of drug release . . . or to erratic release from patient to patient . . . or to erratic release in the same patient from day to day.

That's why the Gradumet provides controlled-release as well as long release.

Perhaps you saw the Gradumet model demonstration which shows that the release is entirely physical. When fluid is added, the drug in the outer ends of the channels dissolves. As fluid penetrates deeper into the channels, there is a continuous release of medication. The rate of release is rigidly controlled by the size and number of channels.

choice of 5 strengths

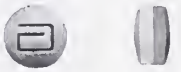
Abbo
Anorect
Progra

DESOXYN Gradumet
Methamphetamine Hydrochloride in Long-Release Dose Form



5 mg. 10 mg. 15 mg.

DESBUTAL 10 Gradumet
10 mg. Methamphetamine Hydrochloride,
60 mg. Pentobarbital Sodium



Front Side

DESBUTAL 15 Gradume
15 mg. Methamphetamine Hydrochloride,
90 mg. Pentobarbital Sodium



Front Side

samples available



Each sample contains 6 tablets and a filled Sucaryl® Sweetener dispenser. For a supply, write Abbott Laboratories or ask your Abbott man.



economy

Patients, in many cases, save enough to get five weeks of medication for the price of four, compared to other leading long-release anorectics.

CONTRAINDICATION: Desoxyn and Desbutal are contraindicated in patients taking a monoamine oxidase inhibitor.

PRECAUTIONS: Use with caution in patients with hypertension, cardiovascular disease, hyperthyroidism, old age, or those sensitive to sympathomimetic drugs or ephedrine and its derivatives. Careful supervision is advisable with maladjusted individuals.

ABBOTT

Gradumet—long-release dose form, Abbott: U.S. Pat. No. 2,987,445
Sucaryl—Abbott brand of low and non-caloric sweeteners.

601060

"In 40 of 44 cases of irritable or spastic colon, Cantil [mepenzolate bromide] or Cantil with Phenobarbital reduced or abolished abdominal pain, diarrhea and distention and promoted restoration of normal bowel function . . . Cantil [mepenzolate bromide] proved to be singularly free of anticholinergic side-effects . . . Urinary retention, noted in two cases was eliminated in one by reducing dosage."[1]

CHARMS THE HYPERACTIVE COLON



CANTIL®

(mepenzolate bromide)

helps restore normal motility and tone

IN BRIEF:

One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth or blurring of vision may occur but it is usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy—withhold in glaucoma. Cantil with Phenobarbital is contraindicated in patients sensitive to phenobarbital.

Supplied: CANTIL (mepenzolate bromide) —25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL —containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

1. Riese, J.A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

DACTILASE®

Each tablet contains:
Dactil® (piperidolate hydrochloride), 50 mg.;
Standardized cellulolytic* enzyme, 2 mg.;
Standardized amylolytic enzyme, 15 mg.;
Standardized proteolytic enzyme, 10 mg.;
Pancreatin 3X** (source of lipolytic activity), 100 mg.; Taurocholic acid, 15 mg.

*Need in human nutrition not established.
**As acid resistant granules equivalent in activity to 300 mg. Pancreatin N.F.



In chronic or acute indigestion, fluttery, gassy stomachs obtain prompt, gratifying relief through the antispasmodic, surface anesthetic and enzymatic activity of Dactilase. Dactilase decreases hypermotility and pain and reduces the production of gas. Dactilase does not induce stasis, but helps restore normal tone. It has little or no effect on enzyme secretions, but *adds* enzymes, thus contributing to the digestive efficiency of the patient.

Side Effects and Contraindications: Dactilase is almost entirely free of side effects. However, it should be withheld in glaucoma and in jaundice due to complete biliary obstruction.

Administration and Dosage: One tablet with, or immediately following, each meal. Tablets should be swallowed whole.

Supplied: Bottles of 60 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

For cold hands and feet, nothing beats hot stoves—but they *are* awkward to carry around. Now Gerilid, in good-tasting take-along chewable tablets can provide rapid vasodilation of peripheral circulation, bringing real warmth to the extremities and decreasing sensitivity to sudden temperature change. Patients *like* Gerilid and *know* they are getting relief.

WARMTH
FOR COLD
HANDS AND FEET



GERILID™

Each chewable tablet contains:
nicotinic acid (niacin) 75 mg. and
aminoacetic acid (glycine) 750 mg.

Administration and Dosage: One or two chewable tablets 3 times a day before meals. If flushing is objectionable, dosage may be lowered. However, tolerance to flushing usually develops without loss of efficacy in regard to vasodilation. The recommended dosage should not be exceeded.

Side effects: Occasional lightheadedness or transient itching which may disappear with continued use. There are no known contraindications; however, caution is advised when there is a concomitant administration of a coronary vasodilator.

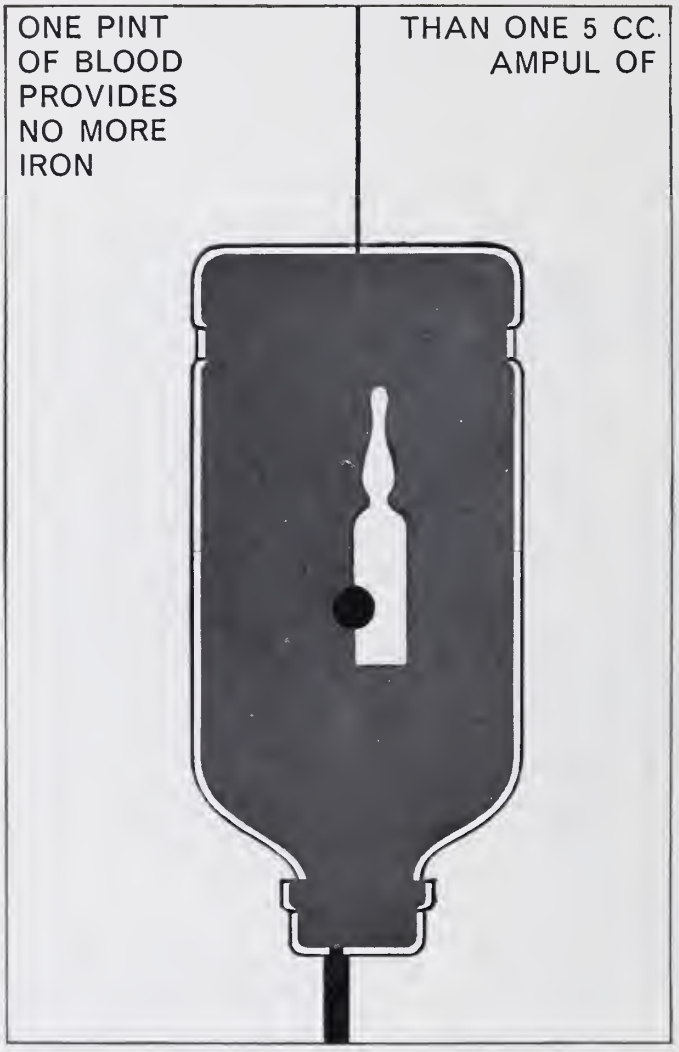
Supplied: Packages of 50 chewable tablets.

Also available in liquid form as Geriliquid®, in bottles of 8 and 16 ounces.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

Obstetrical or post—surgical patients requiring a dependable increase in hemoglobin will receive as much iron (250 mg. in a 5 cc. ampul) as in one pint of blood. Imferon (iron dextran injection) is less expensive and it avoids the well-recognized hazards of whole blood transfusion. When patients cannot—or cannot be relied upon to—take oral iron, Imferon (iron dextran injection) will rapidly supply needed iron for reserve stores.



IMFERON®
(iron dextran injection)

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a *source of iron;* infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb./100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported. Initial test doses of 0.5 cc. are advisable.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

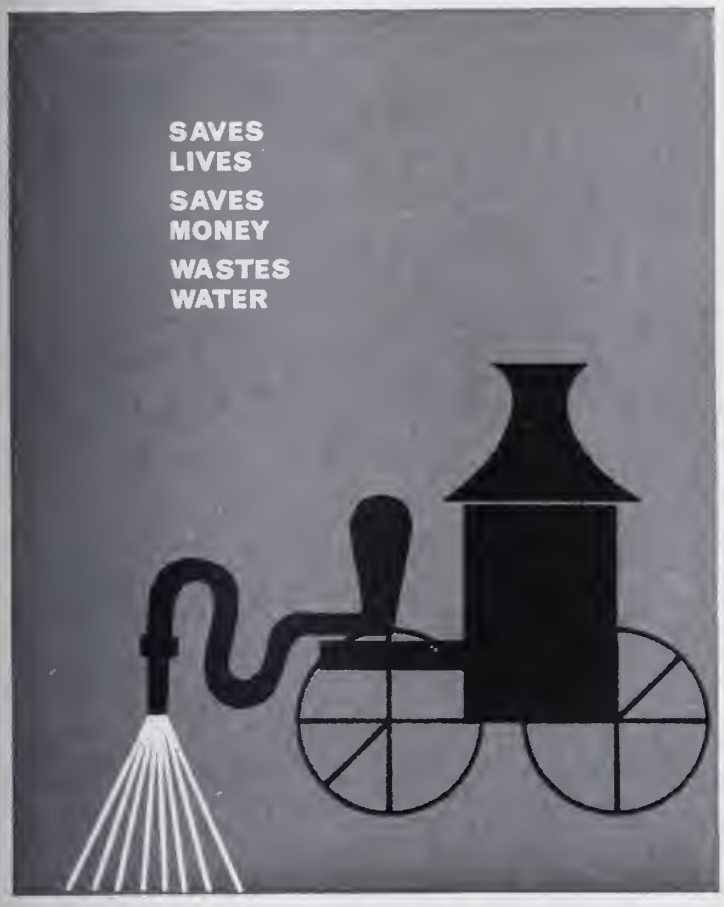
CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4; 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

METAHYDRIN (trichlormethiazide) is prescribed by physicians because it not only approximates the diuretic efficacy of parenteral meralluride injection . . . but, *it is the least expensive of all "brand-name" thiazides.* Therefore, when you prescribe METAHYDRIN (trichlormethiazide) your patients receive the thiazide diuretic that removes a little more salt and water than earlier thiazides, with relatively less loss of potassium . . . and, it's therapy they can more easily afford . . . *only pennies a day.*



METAHYDRIN®

(trichlormethiazide)

oral diuretic

Dosage: One 2 or 4 mg. tablet once or twice daily.

Precautions: As with all effective diuretics, vigorous therapy may produce electrolyte depletion. Patients with severely reduced renal function should be observed carefully since thiazides may be contraindicated. Care should be taken with patients predisposed to diabetes or gout. Patients with a tendency to potassium deficiency, as in hepatic cirrhosis or diarrheal syndromes, or those under therapy with digitalis, ACTH, or certain adrenal steroids, also should be watched carefully.

Side Effects: Nausea, flushing, constipation, skin rash, muscle cramps and gastric discomfort have occasionally been noted; rarely thrombocytopenia and bone marrow depression, photosensitivity, cholestatic jaundice, pancreatitis, perimacular edema, gout and diabetes have been caused by the administration of thiazides.

Contraindications: Complete renal shutdown; rising azotemia or development of hyperkalemia or acidosis in severe renal disease; demonstrated hypersensitivity.

How Supplied: Bottles of 100 and 1000 tablets.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

BRING IT DOWN AND KEEP IT DOWN



Metatensin lowers blood pressure and keeps it low—effectively and economically. It combines reserpine with trichlormethiazide which affords more potent saluresis with less loss of potassium than from earlier thiazides. Reserpine contributes antihypertensive effect by relieving anxiety and tension. Metatensin is well-tolerated over long periods; with its effectiveness and economy it assures antihypertensive therapy you and your patients can stay with.

METATENSIN®

Each scored tablet contains:
METAHYDRIN® (trichlormethiazide)
2 mg. or 4 mg. and
Reserpine 0.1 mg.

Usual adult dose: One tablet twice daily. **Precautions and side effects:** Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing steroids, should be observed for signs of hypokalemia. With thiazides, electrolyte depletion, diabetes, gout, granulopenia, nausea, pancreatitis, cholestatic jaundice, flushing, mild muscle cramps, constipation, photosensitivity, acute myopia, perimacular edema, paresthesias, neonatal bone marrow depression in infants of mothers who received thiazides during pregnancy, skin rash or purpura with or without thrombocytopenia, may occur. With reserpine, untoward effects may include depression, peptic ulcer and bronchial asthma. Withdraw medication at least 7 days prior to electroshock therapy, 2 weeks prior to elective surgery.

Contraindications: Complete renal shutdown, rising azotemia or development of hyperkalemia or acidosis in severe renal disease.

Supplied: Metatensin tablets, 2 mg., 4 mg.—bottles of 100 and 1000.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY



when the feeling of guilt overwhelms

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Indications: In depression of any kind—neurotic and psychotic depressive reactions; manic-depressive or involutional psychotic reactions. **Dosage:** Optimal results are obtained at a dosage of two 25 mg. tablets t.i.d. (150 mg./day). **Contraindications and Precautions:** Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease and epilepsy. Should not be given within two weeks of treatment with a monoamine oxidase inhibitor. Safety in human pregnancy has not been established. **Adverse Effects:** Side effects, usually mild may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste," sensory illusion, tinnitus, agitation and stimulation, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, allergy, transient eosinophilia, granulopenia, altered liver function, ataxia and extrapyramidal signs. **Supplied:** Norpramin (desipramine hydrochloride) tablets of 25 mg., in bottles of 50, 500 and 1000.

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In colicky infants Pediatric Piptal with Phenobarbital slows down spasm, diminishes pain and crying and improves feeding patterns. It permits sleep and rest for patient and family. The less than hypnotic amount of phenobarbital in the recommended dose affords a mild, calming action and enhances the antispasmodic action of Piptal (pipenzolate bromide). The latter drug, as reported in the medical literature, has a favorable ratio of effectiveness to side-effects which is unusual in anticholinergics and thus is particularly appropriate to pediatric use.



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LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

Anatomy of
Low Back Pain #1



the sedentary life is often the seat of low back pain

The human spine is not engineered for prolonged sitting at desks, pianos, typewriters and drafting boards. The stresses set up by the heavy, forward-tilted head and trunk, balanced precariously on an insufficient base, result in strain of the dorsal musculature, particularly at the low lumbar level.

The unusual muscle-relaxant and analgesic properties of 'Soma' make it especially useful in the treatment of low back sprains and strains. 'Soma' is widely prescribed ☐ **to relieve pain** ☐ **to relax muscles** ☐ **to restore mobility.**

Indications: 'Soma' is useful for management of muscle spasm, pain, and stiffness in a variety of inflammatory, traumatic, and degenerative musculoskeletal conditions. It also may act to normalize motor activity in certain neurologic disturbances.

Contraindications: Allergic or idiosyncratic reactions to carisoprodol.

Precautions: 'Soma', like other central nervous system depressants, should be used with caution in patients with known propensity for taking excessive quantities of drugs and in patients with known sensitivity to compounds of similar chemical structure, e.g., meprobamate.

Side Effects: The only side effect reported with any frequency is sleepiness, usually on higher than recommended doses. An occasional patient may not tolerate carisoprodol because of an individual reaction, such as a sensation of weakness. Other rarely observed reactions have included dizziness, ataxia, tremor, agitation, irritability, headache, increase in eosinophil count, flushing of face, and gastrointestinal symptoms.

One instance each of pancytopenia and leukopenia, occurring when carisoprodol was administered with other drugs, has been reported, as has an instance of fixed drug eruption with carisoprodol and subsequent cross reaction to meprobamate. Rare allergic reactions, usually mild, have included one case each of anaphylactoid reaction with mild shock and angioneurotic edema with respiratory difficulty, both reversed with appropriate therapy. In cases of allergic or hypersensitivity reactions, carisoprodol should be discontinued and appropriate therapy initiated. Suicidal attempts may produce coma and/or mild shock and respiratory depression.

Dosage: Usual adult dose is one 350 mg. tablet three times daily and at bedtime.

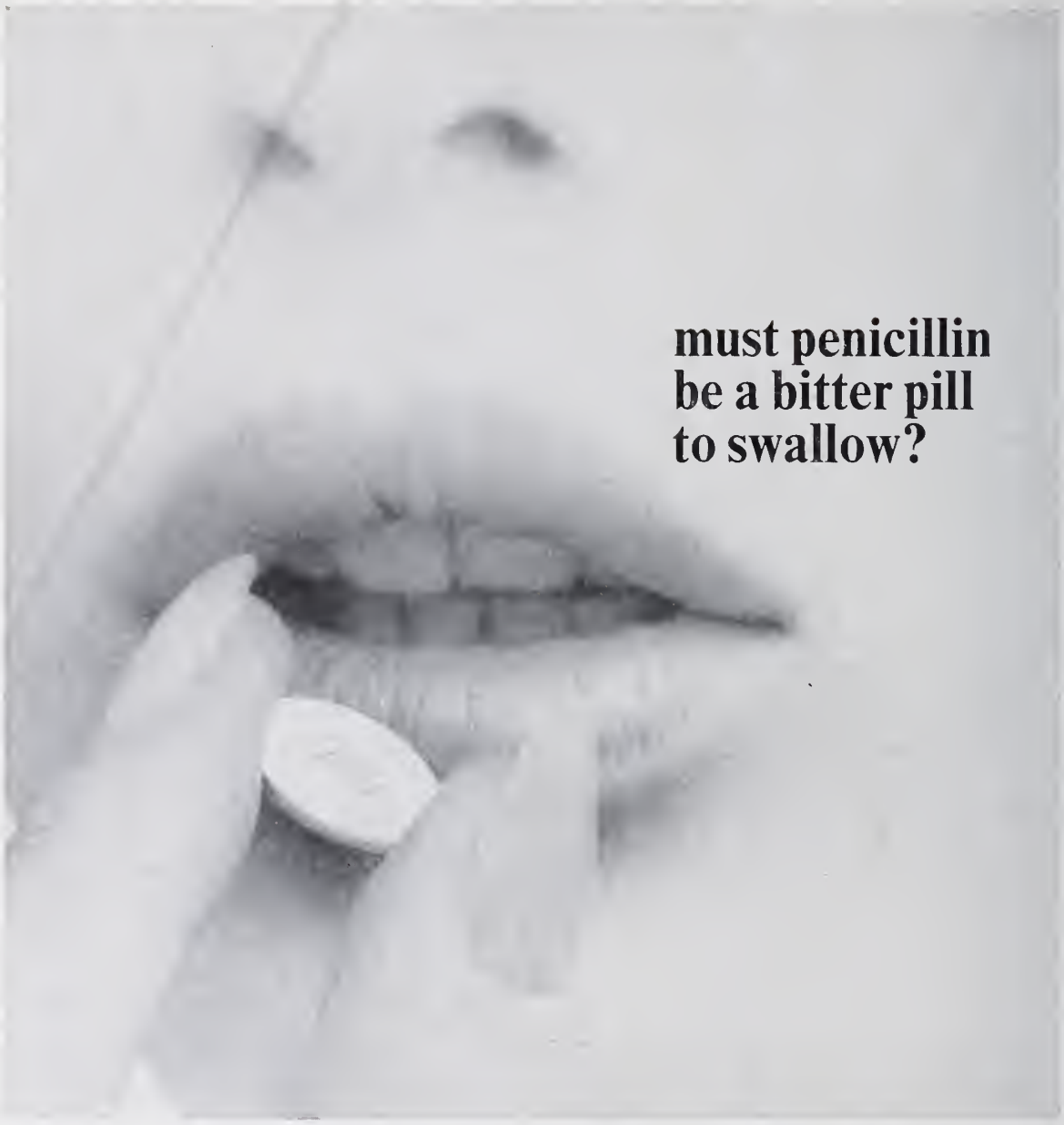
Supplied: Two Strengths: 350 mg. white tablets and 250 mg. orange, two-piece capsules.

Before prescribing, consult package circular.

for the relief of low back sprains and strains

SOMA®
(CARISOPRODOL)

Wallace Laboratories, Cranbury, N.J.
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Not if it is V-Cillin K.

V-Cillin K now has a unique glossy coating that banishes bitter penicillin taste and makes it easier to swallow. Within six seconds (just long enough for the tablet to get past the taste buds), the coating dissolves and the penicillin is ready for immediate absorption into the bloodstream. The patient still gets all the special benefits of V-Cillin K, including consistent dependability . . . even in the presence of food.

Indications: V-Cillin K is an antibiotic useful in the treatment of infections caused by streptococci, pneumococci, and sensitive strains of staphylococci.

Contraindications and Precautions: Although sensitivity reactions are much less common after oral than after parenteral administration, V-Cillin K should not be administered to patients with a history of allergy to penicillin. As with any antibiotic, observation for overgrowth of nonsusceptible organisms during treatment is important.

Usual Dosage Range: 125 mg. (200,000 units) three times a day to 250 mg. every four hours.

Supplied: Tablets V-Cillin K, 125 or 250 mg.; also, V-Cillin K, Pediatric, 125 mg. per 5-cc. teaspoonful, in 40, 80, and 150-cc.-size packages.

V-Cillin K® **Six-Second Barrier to Bitterness**

Potassium Phenoxymethyl Penicillin

Additional information available upon request. Eli Lilly and Company, Indianapolis, Indiana.

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The Virginia
MEDICAL MONTHLY

June, 1966
Vol. 93, No. 6
Whole No. 1369

Guest Editorial . . .

Walter B. Martin

THE DEATH last month of Walter B. Martin, one of Virginia's most distinguished physicians and citizens, is appropriately observed both by published tributes and by reinfusing our lives with the elevating influence which a review of his magnificent life inspires.

The various high offices and citations which were conferred upon him —not sought—reflect his energy and capacity as a physician and a citizen as well as the esteem of his fellow men. These include the presidency of The Medical Society of Virginia, the American Medical Association, and the Johns Hopkins Medical and Surgical Association, membership on the Board of Visitors of the University of Virginia, the Norfolk "First Citizen" citation, selection as Master in the American College of Physicians, and an honorary degree as Doctor of Science from the Medical College of Virginia.

But the true greatness of this man radiates from his personal excellence in and dedication to the practice of medicine. Endowed with superior intelligence, he diligently equipped himself with the science of medicine as a student and house officer at Johns Hopkins. His scholarship was recognized by Phi Beta Kappa and Alpha Omega Alpha membership. He continued his education throughout his life and contributed to the education of others through scientific publications and organizations. He taught and learned through consultation in private and clinic practice and served for years as Chief of Internal Medicine at De Paul Hospital and consultant at the local U. S. Public Health Hospital. The recognition of his proficiency in internal medicine by colleagues locally and nationally included designation as Master in and election to the vice presidency of the American College of Physicians. His programmed ascension to the presidency of the College was precluded by his assumption of the presidency of the A. M. A. Lay recognition of his medical ability was manifest in the fact that it was not considered proper to die in Norfolk without at least being finally attended by Dr. Martin.

However, it was the personal *art* of applying the *science* of medicine directly to the patient to which Dr. Martin so brilliantly and successfully addressed his enormous talents. The human element was maintained as

a respected part of this equation which was seasoned with a communicated calm, confidence, and a ready wit wherever applicable. He pleaded that patients not "find themselves in a mechanical maelstrom." "More hospitals, more equipment, and more technicans have become the symbol of medical progress. Perhaps we have failed in valuing the substance of medicine above its spirit."

The consuming intensity with which he practiced medicine was not blunted by the numerous activities to which his sense of responsibility as a physician and a citizen led him. In his words, "the physician should be interested in and responsible for the total health of his community. He should be active in his professional society, in his place of worship and in his community welfare agencies. He cannot, of course, 'cover the waterfront', but if he selects one or more of these activities he will be a better doctor with a broader outlook on life and its total responsibilities."

Locally this led to many types of community service ranging from creative Boy Scout leadership to the presidency of the Norfolk Community Chest. He was repeatedly called upon by the city government in various capacities to study problems relating to public health, hospital policies, and care of the indigent. In turn, he has repeatedly applied to the city government the pressure of his logic, conviction and quiet personal charm in pursuit of projects he regarded as important to the public. Years ago, when the issue of compulsory pasteurization of milk was being hotly debated before the Council in an atmosphere hostile to logic, he turned the tide by establishing that the outstanding antagonist had unknowingly been drinking for six months the pasteurized milk she was opposing as totally unpalatable.

The first pew of the First Presbyteryian Church was regularly occupied by Dr. Martin and his family for longer than most can remember. He served faithfully over many years as Deacon and as Elder, which office he held at the time of his death.

His conviction that organized medicine provided an important extension of the physician's capacity to provide better health for patients led him to many significant responsibilities in the local, state, and national societies in addition to the presidency of each. He served the American Medical Association as a member of the House of Delegates from 1936 to 1945, member of the Council of Medical Service from 1945 to 1950 and member of the Board of Trustees from 1946 to the year of his presidency in 1954. He was chairman of a special A. M. A. committee which made a study of the results of National Health Service in Great Britain. He served on the Medical Task Force of the Hoover Commission.

To his position of national influence and responsibility he carried his concern for the individual patient. He was deeply concerned that federal encroachment would damage the environment in which the best quality of patient care flourishes. His observations in Britain convinced him that this was, in fact, happening there on a large scale. While he

sought to preserve the existing system of medicine, he worked effectively to improve it through precept, example, and organizational activity to elevate standards of medical care, hospital service, and medical education. "By reason of our expert knowledge in the field of health, we are better able than any other to estimate the effect for good or evil of proposals in the field of health. If our judgment is given honestly and fearlessly for the common good, it should and will carry weight. If it is founded on ignorance or colored by self-interest, it will and should be discarded."

His participation in the organization of Blue Cross-Blue Shield plans in Virginia, support of insurance plans in general, and efforts to minimize the costs of medical care reflected his concern that the capacity of individuals to freely provide for themselves be preserved.

Walter Bramblette Martin was born on a farm near Pulaski in 1888, the ninth of ten children. The post-war economy and the soil conspired against purchasing an education. However, a respect for education and the familiarity with its substance were transmitted from parents to children with the aid of a family library. With the "coaching" of older sisters he by-passed formal elementary education, read avidly, and the first school he attended was college at the age of 14. He graduated from V.P.I. with a bachelor's degree in analytical chemistry. He moved to Norfolk and taught for three years before entering medicine.

Here he courted and married Lucretia de Jarnette, a member of a distinguished Norfolk family. The Martin family grew to include two daughters, Lucretia and Nancy, and a son, Walter Martin, Jr., who is now practicing law in Norfolk. In spite of the multiplicity of professional and civic demands, he deliberately and graciously cultivated the art of living within his family as well as in the broader social circle.

His response to this country's military requirements was far beyond the call of duty. Having served in the Army Medical Corps during the first World War, he maneuvered his way back into the service during World War II, serving eventually with the combat troops on Okinawa as Chief Medical Consultant to the Tenth Army. He was Consultant to the Surgeon General of the Air Force and honorary Consultant to the Surgeon General of the Navy. He studied service hospitals in this country and abroad and advocated the improved residency programs therein which have since been adopted. He urged that Military Medical Services use efficiently the medical manpower drawn from the limited national supply and that they adjust their programs to meet the test of voluntary recruitment.

Other professional associations which shared Dr. Martin's interest and membership include the select American Clinical and Climatological Association, the American Society of Clinical Pathologists, Association for the Study of Allergy, American Association for the Study of Rheu-

matism, the Seaboard Medical Association (past president) and Norfolk County Medical Society (past president).

A landmark of his leadership in the effort to eliminate racial barriers in science occurred in 1954 when the House of Delegates of The Medical Society of Virginia passed his motion to admit eligible Negroes.

Recitation of highlights of this illustrious life is necessarily superficial. The breadth and depth of the multiplicity of pursuits will reward research. The critical mass producing explosive effectiveness in medical practice and public service involved innate intelligence. strong and altruistic motivation, thorough preparation, intense workman-like pursuit of the subject at hand, a respect for the person and opinion of others, use of the best available talent, and a gracious good humor.

The accelerating changes in medicine which we are now experiencing render even more cogent Dr. Martin's example and precept of personal concern for the individual patient, the art of medicine, and the responsibility of the physician individually and collectively for the betterment of the public health. The deeds, counsel, and inspiration of this great physician, statesman and citizen have in many ways improved the life and opportunities of his colleagues, fellow citizens and patients. On behalf of all of these he was thanked at a dinner in his honor given by the Norfolk County Medical Society: "Our affection is for the man whose courage, whose inexhaustible energy, whose wisdom and fraternal loyalty through long years of association have endeared him to us. Our respect is for the physician who has responded to the constant challenge of our times without fear and without prejudice."

His influence will continue in the constructive changes he helped to fashion and in the lives of those who were privileged to know him, his sense of values and his works.

Mason C. Andrews, M.D.

The Aching Chest Pain of Esophagitis

Its Diagnosis and Management

THOMAS D. DAVIS, JR., M.D.
T. DEWEY DAVIS, M.D.

Patients with unusual chest pain and normal cardiovascular and roentgen studies may have hiatus hernia and or esophagitis. All have benefited by the usual therapy.

THE PATIENT with a hiatus hernia may present to the physician with any of several combinations of symptoms and findings. It is well known that most patients with hiatus hernia have typical substernal burning discomfort, regurgitation, eructation and a positive barium swallow. The diagnosis of this group of patients is easily made and medical treatment generally satisfactory. A number of patients are seen with atypical chest pain without regurgitation and burning but also have positive x-ray evidence of hiatus hernia. These patients, likewise, usually become asymptomatic with proper management. We have recently been impressed with a group of nine patients who presented with aching substernal discomfort, not having regurgitation, eructation, etc., but all having a negative upper gastrointestinal x-ray examination. The diagnosis in each was "questionable arteriosclerotic heart disease". Each of these patients was found to have a hiatus hernia and after appropriate medical therapy became asymptomatic. Our findings in this latter group are outlined and discussed in the following paragraphs.

Presented at annual meeting of the Medical Society of Virginia, Richmond, October 1965.

Material and Methods

Only patients having atypical chest pain and negative barium examination of the upper gastrointestinal tract were included. All had the usual complete history and physical examination and at least one normal or inconclusive twelve lead electrocardiogram. Exercise tracings when performed were negative. Seven patients were females and two were males. (Table I) Their ages ranged from 26 to 66 years. No patient had typical regurgitation, heartburn or dysphagia.

TABLE I

HIATUS HERNIA
Material and Methods

Patients	*Age*	*Sex*	*X-ray*	*Esophagoscopy*	*Biopsy*
1	52	F	–	+	
2	62	F	–	+	
3	56	F	–	–	+
4	35	F	–	+	
5	55	F	–	+	
6	26	F	–	+	
7	35	M	–	+	
8	39	F	–	+	
9	66	M	–	+	

All patients were hospitalized and, after an overnight fast, were esophagoscoped using either 1% pyribenzamine solution or xylocaine jelly as a topical anesthetic. Each was given atropine prior to examination and 50 mgs. of meperidine hydrochloride intravenously within five minutes before the esophagoscope was introduced. The Eider-Hufford flexible esophagoscope was used in each case. In eight patients the findings characteristic of a hiatus hernia were noted. Esophagitis

and spasm were also frequent findings. Esophageal biopsy was done in three patients to confirm the presence of esophagitis. In one patient the presence of a hernia was uncertain. Biopsy, however, demonstrated esophagitis.

Discussion

The clinical diagnosis of hiatus hernia has always revolved about a characteristic history or a positive x-ray examination. Those patients having a bizarre history and negative x-rays present a challenging and therapeutic problem to the practicing physician. It is unpardonable to fail to recognize and treat heart disease when it exists and, likewise, it is almost as unpardonable to apply the label of cardiovascular disease to the patient with chest pain when the pathophysiologic problem is one of hiatus hernia. The difficulties in reaching a satisfactory diagnosis in the patient with angina-like chest pain arising from the esophagus is easily understood when one looks at the vast amount of research currently underway attempting to delineate abnormalities in esophageal function. There is considerable discord among observers as to what actually constitutes a hiatus hernia and what examinations best demonstrate it. Certainly x-ray is the classical and most commonly employed means of evaluating esophageal dysfunction. Results, however, often add to the confusion when pathology is found in asymptomatic patients and none is found where it is expected. Because of the frequent lack of information gained by x-ray, observers have sought other ways to study the distal esophagus. Pressure recording devices, Ph monitors and instruments to detect changes in membrane potential have been introduced in hopes of demonstrating the nature of cardioesophageal dysfunction. Multiple biopsy specimens taken during life and post mortem have been studied to determine the site of transition to gastric mucosa. The enigma of the Schatzki ring remains controversial. It can be thus safely stated that the esophagus remains a difficult organ to study.

Esophagoscopy affords information which frequently cannot be obtained by simpler studies. In the hands of the trained clinician, it is a relatively innocuous procedure. The institution of the flexible tip esophagoscope has practically eliminated perforation at the level of the crycopharyngeal muscle. Its judicious use in uncooperative patients or those with cervical arthritis has eliminated other complications. When the presence of an incompetent sphincter mechanism is questioned, biopsy of the distal esophagus may yield useful information.

Treatment

The treatment of these patients is generally quite simple and almost always satisfactory. Several important features deserve emphasis. For reasons which are unclear to us (but probably related to a decrease in intra-abdominal pressure) weight loss of only ten pounds or so is often a most beneficial adjunct to treatment. Consequently these patients should be encouraged to reduce their calorie intake in addition to selecting from a bland diet. Another important feature in the treatment of these patients is the elevation of the head of their beds. Some patients will attempt to accomplish this by sleeping on three to four pillows. This only results in an increase in intra-abdominal pressure and defeats the purpose. Patients should be instructed to place "cinder blocks" or large blocks of wood six inches in height under the headposts. They also should be carefully instructed to eat or drink nothing other than medication after 7 P.M. Therapy should also include the frequent ingestion of liquid antacids.

Esophageal dilatation has a role in the treatment of some of these patients. This is usually advantageous in those patients who have aching pain rather than burning discomfort and who have not responded to more conservative management. A number of different dilators have been devised and most are satisfactory. We have found the

soft, mercury filled, rubber, Hurst dilators quite safe and easy to use. One wonders how esophageal dilatations in the presence of hiatus hernia benefit these patients. Perhaps by interrupting the cycle of spasm, insufficient blood supply and interference with the cardioesophageal valve-like mechanism, more normal peristalsis is restored. In any event it seems an invaluable adjunct to the above outlined program.

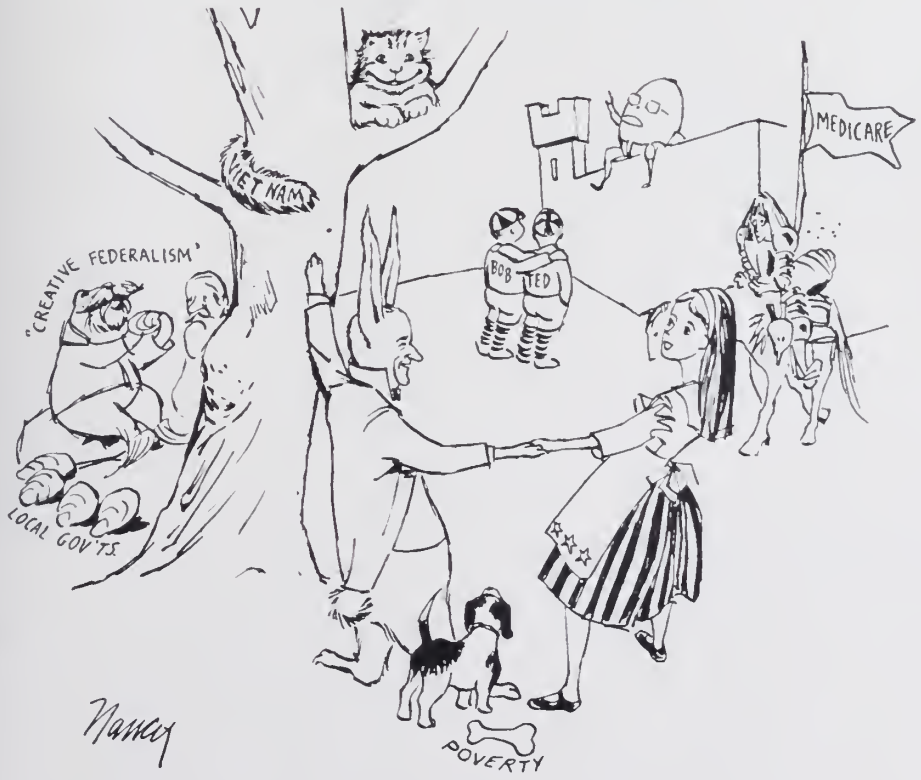
Surgical treatment of a hiatus hernia is necessary if there has been recurrent bleeding or if stricture formation has advanced to the point where dilatation will not afford relief. We feel that operation on any hiatus hernia that is not complicated and that has not had an honest trial of medical treatment should not be undertaken. Experience has indicated that the results of repair are variable and often unrewarding.

Summary and Conclusions

Nine patients have been seen with unusual chest pain and normal cardiovascular and roentgen studies of the upper gastrointestinal tract. Each proved to have esophagoscopic findings of hiatus hernia and/or esophagitis. All have been benefited by the usual therapy for esophageal hiatus hernia. This organ remains difficult to study. Esophagoscopy is a safe, informative adjunct in most cases. Dilatation continues to be rewarding in those that do not respond to the usual regimen.

Professional Building
Richmond, Virginia

ALICE IN GREAT SOCIETY LAND



"THINGS ARE GETTING CURIOSER AND CURIOSER"

Reprinted from the Medical Bulletin of Northern Virginia

Colon and Rectal Injuries in Gynecological Surgery

FRED T. GIVEN, JR., M.D.
LEVI OLD, JR., M.D.
WILLETTE L. LEHEW, M.D.
Norfolk, Virginia

The prevention and management of colon and rectal injuries at the time of gynecological surgery is discussed.

THE TREATMENT of accidental injuries to the ureters and bladder occurring at the time of gynecological surgery is well documented in most texts and the current literature. The treatment of injuries to the colon and rectum is usually not mentioned in detail. We feel that this topic deserves more adequate discussion.

A selective cumulative review of the literature as noted in Figures 1 & 2 reveals the frequency of injuries to the large bowel, bladder, or ureters at the time of gynecological surgery.[1-9] Perhaps as Dieffenbach stated in the early 1800's, "A vesico-vaginal fistula is the greatest misfortune that can happen to a woman"[10] but certainly a torn or lacerated bowel, with the leakage of contaminated material and the possibility of abscess formation, peritonitis, fecal or rectovaginal fistula merits due consideration.

NATIONAL STATISTICS
INJURIES DURING TOTAL ABDOMINAL HYSTERECTOMY

Author	*No. Cases*	*Bladder*	*Ureter*	*Large Bowel*	
Cornell	483	1	1	2	
Golden	506	3	0	1	
Hitchens	1044	7	3	9	
Johnson	360	0	0	0	
Mengert	1925	12	10	12	
Tyrone	1627	0	0	1	
Weir	1273	8	7	5	
	7218	31	21	30	(1-240)

Fig. 1

NATIONAL STATISTICS
INJURIES DURING VAGINAL HYSTERECTOMY

Author	*No. Cases*	*Bladder*	*Ureter*	*Large Bowel*	
Copenhaver	1000	11	2	0	
Cornell	35	0	0	0	
Counsellor	401	1	0	3	
Golden	355	3	0	0	
Hitchens	281	1	1	4	
Johnson	176	1	1	0	
Tyrone	373	1	1	0	
Weir	179	0	1	2	
	28 0	18	6	9	(1-310)

Fig. 2

All charts currently available in three local hospitals have been reviewed. We have included only major gynecological cases, both vaginal and abdominal, in which there was accidental trauma to the bowel, bladder, or ureters. All cases that had preoperative antibiotic sterilization of the bowel were excluded. As shown in Figure 3, there were 15 injuries to the large bowel in the 5329 cases studied, or approximately 1 per 355 cases. In these 15 cases, there was complete penetration into the lumen of the bowel. Injuries to the bladder and small bowel show a slightly higher incidence, but certainly not enough to exclude major consideration to the problem under discussion. Figure 4 illustrates that in the abdominal cases, there were eight injuries to the large bowel, an incidence of 1 per 420 cases. The vaginal cases reveal a higher incidence of 1 per 280 cases.

LOCAL STATISTICS
INJURIES DURING GYNECOLOGICAL SURGERY

Total No. Cases		5329	
Injuries			
Bladder	22		
Small Bowel	17		
Large Bowel	15	(1-355)	
Ureter	2		

Fig. 3

LOCAL STATISTICS

INJURIES DURING GYNECOLOGICAL SURGERY

Abdominal		*Vaginal*	
Total No. Cases	3376	Total No. Cases	1953
Injuries		Injuries	
Bladder	13	Bladder	9
Small Bowel	16	Small Bowel	1
Large Bowel	8 (1-420)	Large Bowel	7 (1-280)
Ureter	2	Ureter	0

Fig. 4

A complete breakdown of all gynecological procedures in our series is presented in Figure 5.

Abdominal		*Vaginal*	
Total No. Cases	3376	Total No. Cases	1953
		Vag. Hyst.	275
		Cx. Stump	19
T. A. H.	1515	Vag. Hyst. A.&P.	1143
T. A. H., S. & O.	1504	Vag. Hyst. Post.	30
S. & O.	357	Cx. Stump A.&P.	62
		A. & P. Rep.	369
		Post. Rep.	55
	3376		1953

Fig. 5

In Figure 6 we have separated the large

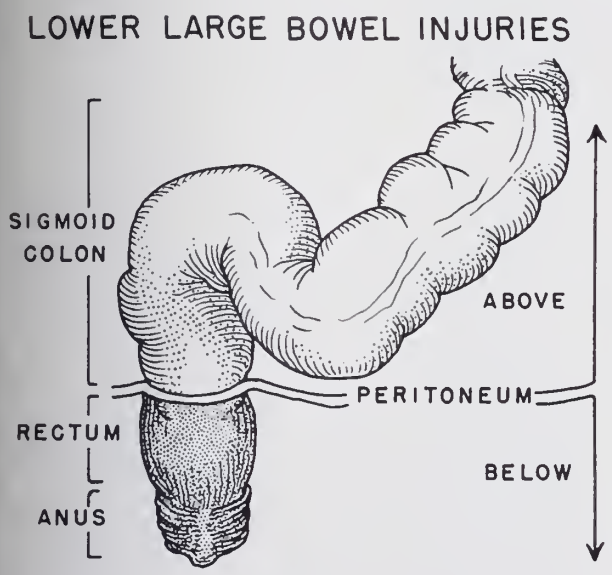


Fig. 6

bowel injuries into those occurring above the peritoneal reflection involving the colon and those below the peritoneal reflection involving the anorectum. In this series, all of the injuries above the peritoneal reflection were by transabdominal surgery, and all rectal trauma was by transvaginal surgery. All lacerations (17) to the small bowel have been excluded from this study, (since primary repair of the injured small bowel segment is the treatment of choice and the end result is usually quite good).

It is well known that the contents of the large bowel can be a source of contamination. The ileocecal valve is competent in some 60% of patients, so, in effect, there is often a physiological closed loop, as demonstrated in Figure 7. The greater the back

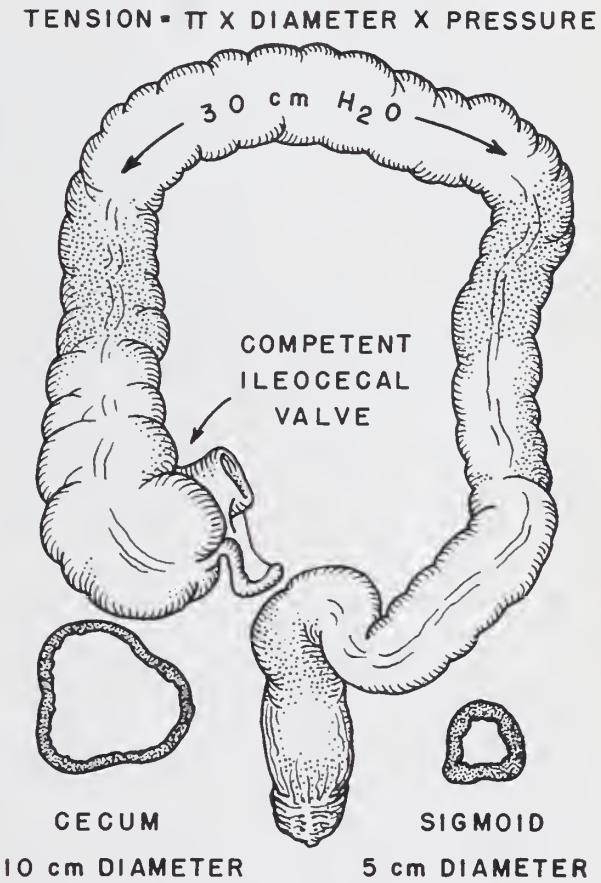


Fig. 7

pressure, the more tightly the valve is closed. The diameter of the sigmoid is 1/2 that of the cecum and it is also thicker. If we apply the formula: Tissue Tension = Pi x Pressure x Diameter, it becomes apparent that the sigmoid is subjected to two or three times less tension per unit of tissue.[11] The transabdominal injuries in this series all occurred in the sigmoid colon and, theoretically, this segment would offer the best primary union.

Figure 8 shows the many ways in which

an injury can occur, i.e., puncture wound, superficial laceration, through and through laceration, or an injury to the blood supply. In our experience, the bowel is lacerated either by sharp dissection or during blunt dissection by the dissecting finger.

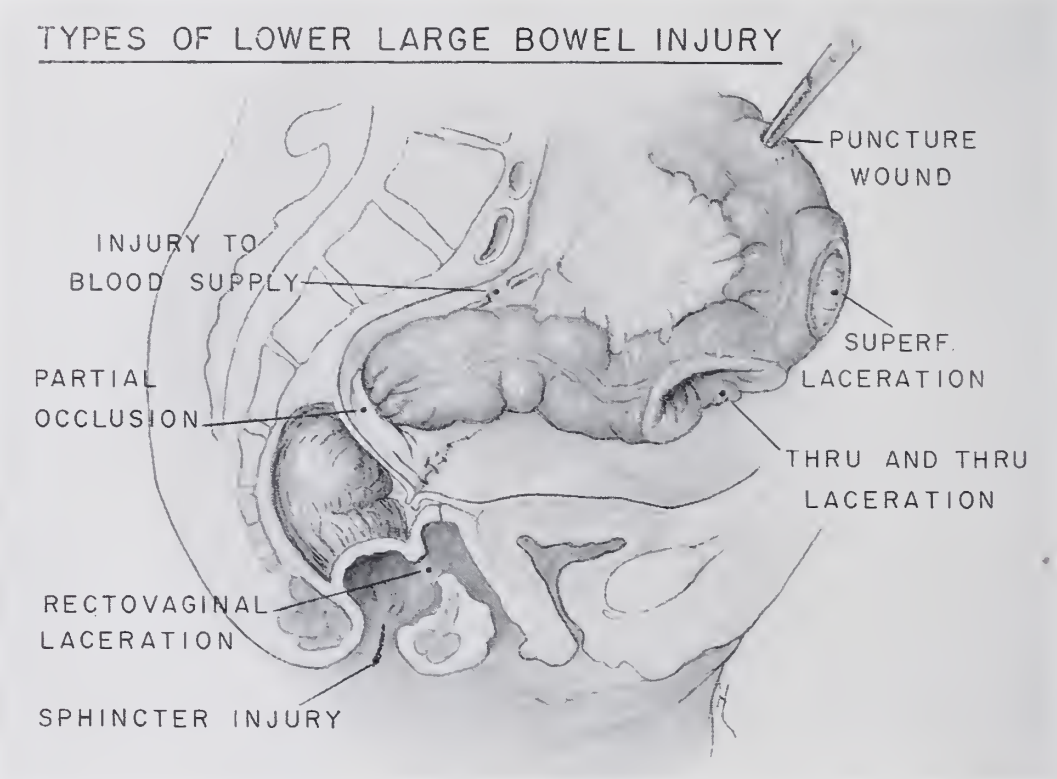


Fig. 8

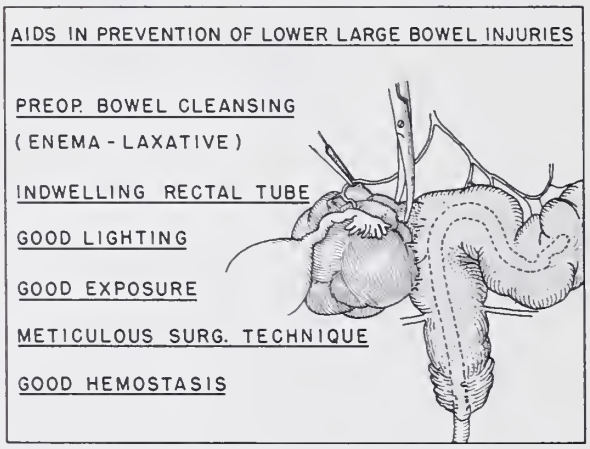


Fig. 9

Figure 9 illustrates the importance of prevention. The mechanical cleansing of the bowel is extremely important and the use of laxatives and enemas pre-operatively should always be routine. If one anticipates a difficult dissection due to chronic pelvic inflammatory disease, severe endometriosis, or pelvic malignancy, then preoperative preparation of the bowel with antibiotics is often advantageous. A combination of sulfathalidine and neomycin, orally administered, is one of the best.[12]

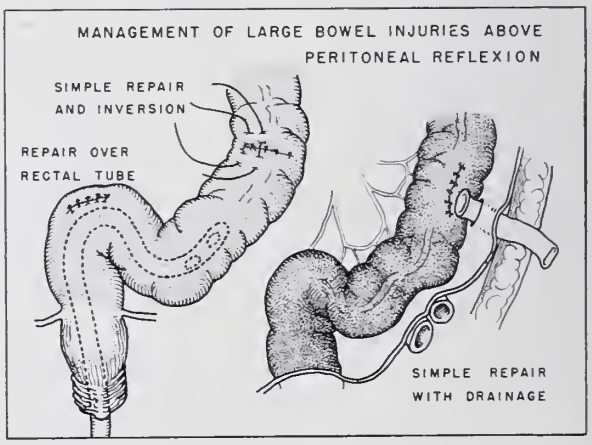


Fig. 10

Meticulous surgical technique with good exposure, good lighting, careful hemostasis, and the use of an indwelling rectal tube cannot be overemphasized.

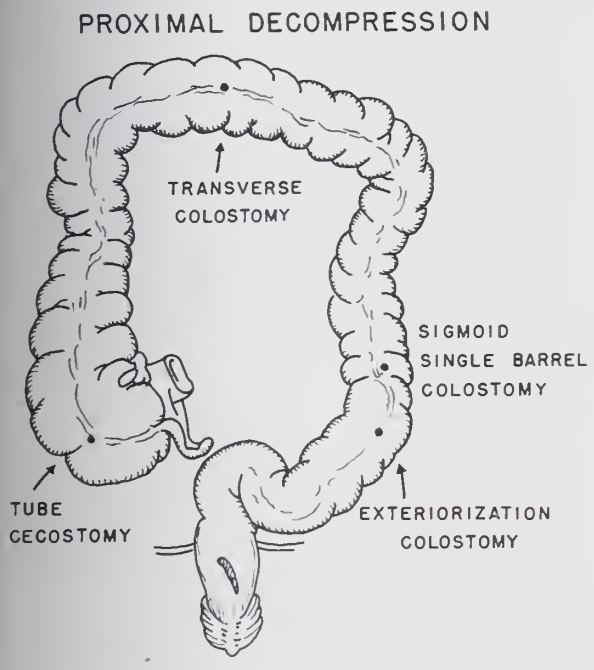


Fig. 11

The various methods of treating large bowel injuries are demonstrated by Figure 10. First, there is the simple repair using a two or three layer closure with or without

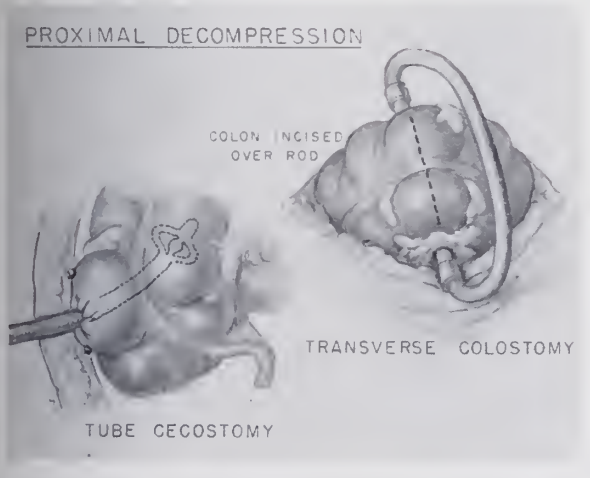


Fig. 12

drainage. One may use this type repair with an indwelling rectal tube. Consideration should be given to proximal decompression due to the possibility of large bowel distention. This may be done as in Figure 11 by several methods: i.e., tube cecostomy, transverse, sigmoid single barrel, or exteriorization colostomy. The simple tube cecostomy, with the use of an appropriate catheter, or the classic transverse colostomy over a glass rod, in Figure 12, are standard procedures. Since the sigmoid colon is the segment most often injured during gynecological surgery, Figure 13 gives consideration to either pri-

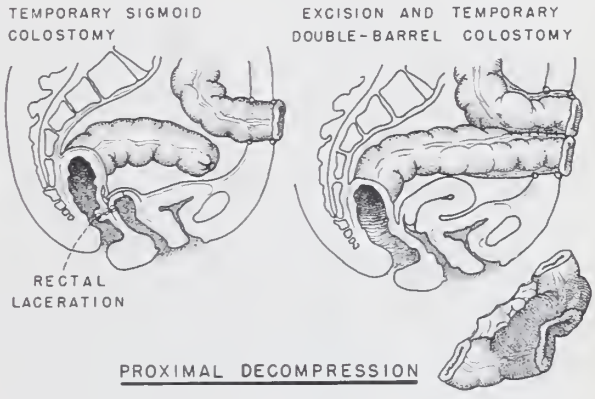


Fig. 13

mary repair of the laceration and a temporary sigmoid colostomy or, with a mobile sigmoid, excision of the damaged segment and a double barrel sigmoid colostomy.

Proximal decompression is important, but not routine. Figure 14 reviews some articles on the management of traumatic injuries to the large bowel.[13-15] It would seem that since the experiences of the Second World War, with the mandatory use of proximal decompression even in small lacerations, there has been a gradual trend to primary

TRAUMATIC INJURIES RECTUM AND COLON
MORTALITY RATES

	Taylor 1948	*Pontius 1957*	*Vannix 1963*
Primary Closure	22%	8%	6%
Closure Proximal Decompressions	38%	25%	23.9%

Fig. 14

closure without decompression, except in unusual circumstances. The reduction in the mortality rate with primary closure from 22% to 6% over a 15-20 year span, would seem to substantiate this fact. In gynecological surgery, where usually there is a small wound in the colon, no delay in

the diagnosis, minimal contamination, good blood supply, and mobile sigmoid colon, the use of primary closure should give a good result.

As exhibited in Figure 15, the laparotomy incision should not be tightly closed. We encourage the use of any accepted method of managing potentially infected incisions such as drainage, retention sutures, packing, etc.

Although the usual traumatic wound of the rectum is a serious problem, this is not true in the average gynecological case. Wounds, in this extraperitoneal segment of

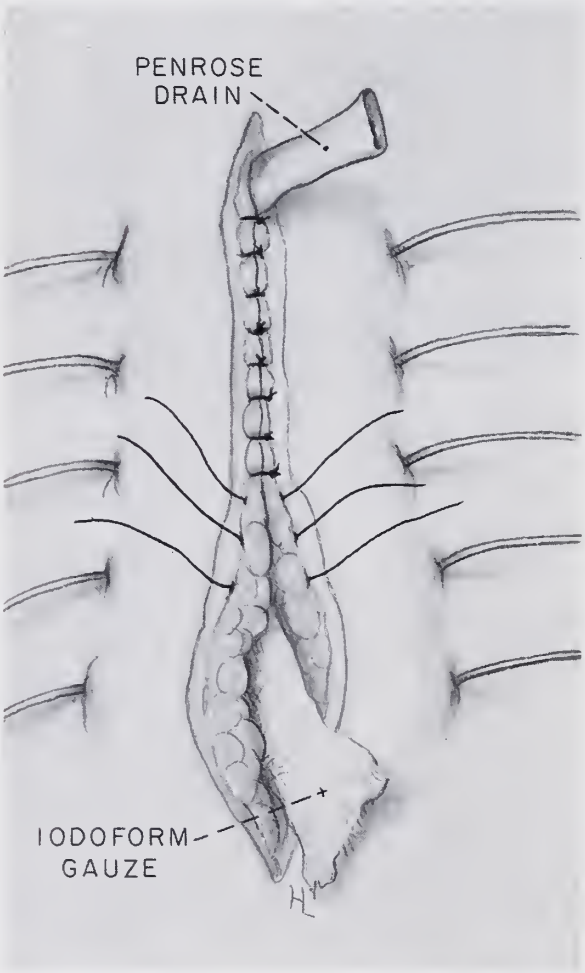


Fig. 15

the colon in vaginal surgery, are usually from dissection, either blunt or sharp, occurring at the time of posterior repair. These wounds are quite close to the anal sphincter and are easily recognized during surgery or at rectal digital examination which is done routinely prior to termination of the procedure. It would seem best not to equate this gynecological surgical injury with the traumatic type of rectal injury, but compare it with a complete perineal laceration occurring at the time of delivery. The obstetrical cases in Figure 16 demonstrate that the occurrence of a postoperative rectovaginal fistula can be expected in less than one per 62 repaired lacerations. Of these, over two-thirds should heal spontaneously.

Complete Perineal Lacerations (Obstetrical)

Author	*No. Cases*	*Recto-Vaginal Fistula*	*Healed Spontaneously*
Brantly	134	2	1
Barter	272	0	
Kaltreider	710	16	10
	1116	18	11

Fig. 16

Therefore, a permanent rectovaginal fistula should occur once every 160 cases.[16-18] There could be an equal number of cases needing incision and drainage of a small abscess if no method of drainage is instituted at the time of the initial procedure.

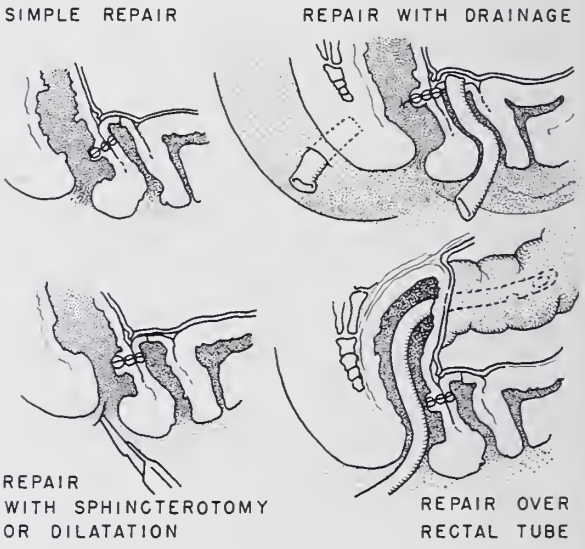


Fig. 17

Figure 17 shows that lacerations below the peritoneal reflection are best repaired in layers with consideration given to some method of drainage and also the use of an indwelling rectal tube or anal sphincterot-

omy for partial decompression. In these lacerations, a drain can be placed by a stab wound through the ischiorectal fossa or the rectorectal space.

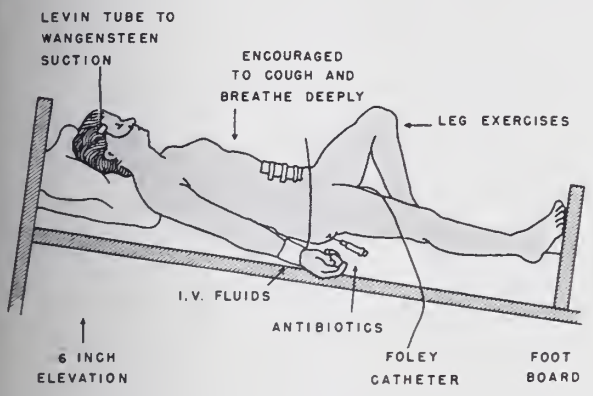


Fig. 18

Figure 18 points out that with any colon or rectal surgical procedure, good postoperative care is essential. Such measures as elevation of the head of the patient's bed, antibiotics, nothing per os, nasogastric suction, etc., are important.

Review of Cases

Abdominal cases:

1. M.H.: T.A.H., Bil. S & O for chronic P.I.D. Sigmoid torn by blunt dissection while freeing left adnexa. Two layer closure. Good result.
2. A.W.: T.A.H., Lt. S & O for myomata uteri and left T.O.A. Sigmoid entered during dissection of left adnexa, posterior surface of uterus and sigmoid. Closed in two layers and area extraperitonealized with use of bladder flap with drain through vaginal cuff. Good result.
3. O.B.: T.A.H., Bil. S & O for diffuse endometriosis. Sigmoid entered with sharp dissection while freeing sigmoid from posterior surface of uterus. Area resected with end to end anastomosis. Good result.
4. B.T.: T.A.H., Bil. S & O for diffuse endometriosis. Sigmoid entered during dissection of posterior surface of uterus. Three layer closure. Good result.
5. H.B.: T.A.H., Bil. S & O for chronic P.I.D. Sigmoid entered while dissecting left adnexa. Two layer closure. Good result.
6. M.B.: T.A.H. for myomata uteri and endometriosis. Sigmoid entered while dissecting posterior surface of uterus. Two layer closure. Good result.
7. D.Z.: T.A.H., Lt. S & O for left T.O.A. Sigmoid entered while freeing left T.O.A. Two layer closure. Good result.
8. B.H.: Left S & O for left T.O.A. Sigmoid entered while freeing T.O.A. Two layer closure. Good result.

Vaginal cases:

1. V.P.: Vag. Hyst. A & P repair. Entered rectum with blunt finger dissection. Two layer closure. Good result.
2. J.F.: Vag. Hyst. A & P repair. Entered rectum with sharp dissection. Incised sphincter and converted to complete perineal laceration with layer closure. Good result.
3. B.B.: Vag. Hyst. A & P repair, rectum entered. Two layer closure. P.O. course complicated by re-admission 47 days P.O. for I & D abscess in area of posterior repair. No difficulty after second procedure.
4. M.D.: Vag. Hyst. A & P repair. Entered rectum with blunt dissection. Two layer closure. Good result.
5. D.G.: Vag. Hyst. A & P repair. Rectum entered with sharp dissection. Incised sphincter and converted to complete perineal laceration with layer closure. Good result.
6. M.B.: Vag. Hyst. A & P repair. Rectum entered with blunt dissection. Incised sphincter and converted to complete perineal laceration with layer closure. Good result.
7. M.W.: Vag. Hyst. A & P repair. Rectum entered. Sphincter incised and converted to complete perineal laceration, with layer closure. Good result. Apparent incidental infected cuff hematoma.

Discussion

In our eight abdominal cases, five injuries occurred while dissecting free the adnexae prior to their removal. Four of these were involved with an inflammatory process and one with endometriosis. The other three injuries occurred while freeing the posterior surface of the uterus from the sigmoid where there was a great deal of involvement with endometriosis. Unless one is dealing with a malignancy, it may be best to leave a little endometriosis or inflammatory process on the sigmoid rather than the reverse. One might be reminded of a statement by Dr. Leo Brady of Baltimore in discussing a paper on Total Abdominal Hysterectomy, "Now if I do not remove the entire uterus,

surgical pride would be hurt, but it is my pride not the patient's. On the other hand, if a pan hysterectomy is carried out, the rectum may be opened and it will be the patient's rectum, not mine, that is injured."[19]

All of our abdominal injuries, with one exception, were closed with a layer closure and no proximal decompression. There was one primary resection and an end to end anastomosis. In one case following primary closure, the area was extraperitonealized with the use of a bladder flap and a drain placed through the vaginal cuff. All had good results with no complications or prolonged convalescence.

The seven vaginal injuries occurred during either blunt or sharp dissection for the separation of the posterior vaginal wall from the perirectal fascia. There were a total of 1,659 posterior repairs in our series. This particular injury occurred once every 240 cases. Four of these were converted to a complete perineal laceration by an incision through the anal sphincter and repaired with good results. This represents a type of sphincterotomy. The other three cases had a layer closure. The only complication in the entire series occurred in this group. A prolonged convalescence which required re-admission with an I & D of a small abscess was followed by a complete recovery in one case.

Summary

1. Colon and rectal injuries at the time of gynecological surgery should be anticipated and prevented.
2. Injuries above the peritoneal reflection should be repaired and possibly drained. Proximal decompression is rarely needed. Partial decompression with a rectal tube or sphincterotomy may be helpful.
3. Injuries below the peritoneal reflection should be repaired and often drained. Rectal tube decompression is adequate.
4. Good postoperative care is essential.

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Clinical Center Study of Patients with Chronic Lymphocytic Leukemia

The cooperation of physicians is requested in a study of chronic lymphocytic leukemia, including therapy in patients with this disorder, being conducted by the Medicine and Radiation Branches of the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Referrals of selected patients, particularly those with high circulating lymphocyte counts, are needed.

Physicians interested in having their patients considered for the study may write or telephone:

Paul P. Carbone, M.D.
Clinical Center, Room 12-N-226
National Institutes of Health
Bethesda, Maryland, 20014
Telephone: 656-4000, Ext. 64251
(Area Code 301)

Amyotrophic Lateral Sclerosis and Sensory Changes

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A careful study of amyotrophic lateral sclerosis indicates that objective sensory changes are not a part of the disease. Cases reported in the past as showing sensory changes probably represent diagnostic errors or the coincident presence of another pathologic process.

AMYOTROPHIC LATERAL SCLEROSIS (A.L.S.) is considered by most authors to be a disease only of the motor system. Sensory disturbances have been reported occasionally, raising questions as to whether the disease may involve pathways of sensation, whether these alterations are produced by a complicating disorder, or, whether intermediate forms of the disease exist. The following case and a critical review of the literature support the view that objective sensory disturbances occur as a complication of A.L.S., or, in a few instances because of mis-diagnosis.

From the Department of Pathology, University of Virginia School of Medicine and Brooke Army Medical Center. Former fourth year student at the University of Virginia School of Medicine (Dr. Feller); Captain, U.S.A. (Dr. Jones); Professor of Neuropathology, University of Virginia School of Medicine (Dr. Netsky).

Aided by training grant NB-5383 from the National Institute of Neurological Diseases and Blindness of the National Institutes of Health.

Report of Case

A 59 year old woman was well until July 1959 when her right foot ached. In December 1959, she noted the onset of foot drop and weakness in the legs. The symptoms progressed until June 1960 when myelography revealed an intraspinal mass at the level of the second lumbar vertebra. Laminectomy disclosed a neurofibroma, 1.5 cm. in diameter, attached to the filum terminale. The mass was excised. She improved for a short time, but then worsened, noting weakness of both lower extremities, and by August 1961, the upper extremities were weak, mainly on the left.

She was admitted to an Army Hospital again in January 1962. The lower extremities were diffusely weak. The interossei of the left hand were atrophic. Fasciculations were occasionally noted. The deep reflexes were hyperactive in the right patella and upper extremities, but absent at the ankle and in the left patella. Hypalgesia was noted in the first sacral dermatome of the left. Another myelogram failed to reveal a suspected cervical neurofibroma, but a block at the third to fourth lumbar vertebral level and cervical spondylosis were found. The patient underwent lumbar laminectomy in February 1962. Dense, adhesive arachnoiditis was treated by lysis of the adhesions and injection of Depo-Medrol ®. The disease progressed relentlessly, and by October 1962, both hands were severely atrophic, and she was completely paralyzed and flaccid in the lower limbs, although reflexes were generally active. A third myelogram showed arachnoiditis at the first to second lumbar verte-

bral segments, but the cervical spine was not blocked. Some loss of vibratory and position sense were then noted in the lower extremities, but unfortunately details were not given. She rapidly deteriorated until death occurred in September 1964 with ventricular tachycardia and respiratory insufficiency.

Necropsy revealed congestion and edema of the lungs, acute hepatic congestion and centrolobular necrosis. The brain and spinal cord were grossly normal. Hematoxylin and eosin, luxol fast blue, and Holzer stains of multiple sections of the spinal cord revealed few anterior horn cells, bilateral demyelination of the fasciculus gracilis and lateral corticospinal tracts (Fig. 1), and an increase of glia in the demyelinated regions at all levels studied.



Fig. 1. Photomicrograph of thoracic level of spinal cord. Demyelination is seen in both lateral corticospinal tracts and the fasciculus gracilis bilaterally. Luxol fast blue, x 15.

Comment: Systematic demyelination of the lateral columns associated with loss of anterior horn cells is consistent with the anatomic diagnosis of A.L.S. The ascending degeneration in the fasciculus gracilis is interpreted however as secondary to the neurofibroma, the surgical procedure and subsequent arachnoidal adhesions.

Review of Literature

Reports before 1900 of A.L.S. with sensory changes have been excluded from consideration because of questionable reliability of the diagnosis. Authors in standard textbooks of medicine,[1,2] neurology,[3-10] and neuropathology[11-13] agree that subjective sensory changes are common early symptoms in A.L.S. Subjective changes are here defined as complaints of the patient not verifiable by examination. These symptoms are variously described as cramps, paresthesiae, coldness, numbness and aches, pains or stiffness, and are attributed to muscular imbalance as a result of wasting, or to spasticity.[1,3,4,7,8,11] Objective sensory changes, complaints correlated with findings of the examiner, are said to be rare or absent.[1-11] Anatomic alterations related to sensory pathways and nuclei are also said to be uncommon, although several authors state that pallor of the posterior columns may occur, consistent with that seen in normal individuals of comparable age.[4,5,11]

At least three papers have been published after 1900, containing descriptions of eleven cases of A.L.S. with either clinical sensory

deficits or anatomic changes in the sensory pathways of the central nervous system.[14,15,16] The two cases presented by Wechsler, Brock and Weil in 1929,[14] and the two of Davison and Wechsler in 1936[15] have been the references cited by most authors who state that objective sensory disturbances and anatomic changes in the posterior columns may occur in A.L.S. These four cases will be examined in detail. A few additional patients reported more recently by Friedman and Freedman[16] will also be considered.

The first patient of Wechsler, Brock and Weil[14] was a 40 year old woman complaining of inability to walk, and muscular pain and tenderness in the lower extremities. Eighteen months before admission, she noted steadily worsening cramplike pains in her legs. One year later, the diagnosis of multiple peripheral neuritis was made at a hospital. She improved, but the pain and weakness gradually returned, and she lost 20 pounds during the six months before her final admission.

Examination revealed atrophy and weakness of the lower extremities, decreased deep reflexes and absence of the sign of Babinski. Tendon reflexes in the upper extremities were increased. Superficial abdominal reflexes were absent except in the left lower quadrant. The thighs and calves were tender to pressure. Sensation was normal except for possible hypalgesia on the external surface of the left ankle. She also had irregular pupils, dry atrophic skin of the feet, venous stasis, swollen knee joints and extreme sensitivity to scratching of her soles. Peripheral neuritis or infectious radiculitis were the initial diagnostic considerations.

Shortly after admission, examination revealed a sign of Babinski and ankle clonus on the right, absence of the left ankle jerk, diminution in tactile sensibility over the left second sacral dermatome and a belt of hyperesthesia in the first and second lumbar segments. The right Babinski's sign and absent left ankle jerk led to consideration of a cauda equina tumor. Laminectomy was done three months after admission and was unrevealing. Eight months later, neuritic pain ceased, but she noted a decrease in sensation and coldness of both feet, and said she could not feel pain, temperature, and touch in her right upper extremity as well as in her left. Thirteen months later, three years after the initial symptoms, she had atrophy of the intrinsic muscles of the hands and widespread fasciculations. *Sensation was now intact.* Progressive bulbar paralysis during the next 15 months led to death. Tests for syphilis on blood and cerebrospinal fluid, and the blood count were all normal.

Microscopic study of the nervous system revealed degeneration of the motor nuclei of the brain stem, gliosis, decrease in the number of anterior horn cells, and paling of the lateral columns extending beyond the area of the lateral corticospinal tracts, but the posterior columns and spinothalamic tracts were intact.

Comment: A protracted disease of upper and lower motor neurons was ushered in by subjective sensory symptoms lasting two years. The patient died three years later without clinical or pathologic evidence of sensory disturbance. Anisocoria, hypesthesia and hyperesthesia of root distribution, swollen knee joints, the non-progressive nature and ultimate recovery from these early symptoms suggest a neuropathy or radiculopathy from which the patient recovered without residual effects. She died with A.L.S.; the remitting involvement of peripheral nerves should be viewed as an associated and complicating disorder, not as part of the invariably progressive A.L.S.

The second patient of Wechsler, Brock, and Weil[14] was a 48 year old man admitted with a complaint of inability to walk, and coldness of the lower extremities. Eighteen months before admission, he noted weakness first of the right foot and leg, then of the left leg.

Examination revealed that the right pupil was larger than the left, the left pupil was irregular, and both reacted sluggishly to light, but better on accommodation. The

left eye moved poorly in convergence. The patient had a flaccid steppage gait with weakness, atrophy, and fasciculations in the lower extremities. He was uncooperative, but appeared to have hyperesthesia and hyperalgesia in the first lumbar dermatome, and hypesthesia and hypalgesia in the third through fifth lumbar dermatomes. Vibratory sensation was impaired below the knees. Position sense was grossly intact, but seemed impaired when tested by finer degrees of movement. Tests of temperature sensation were unreliable. The calves were tender on deep pressure. The presence at one time of a stocking distribution of diminished sensibility led to the diagnosis of multiple neuritis.

Three months later, atrophy of the intrinsic muscles of the right hand was noted, and during the next year, atrophy and fasciculations spread to the muscles of the shoulder girdle and tongue. The deep tendon reflexes were decreased or absent, but the jaw reflex was hyperactive. The patient died three months later with bronchopneumonia, three years after the onset of symptoms.

Early in the course, the cerebro-spinal fluid was clear and contained ten cells. The Wassermann test was negative, and a gum mastic curve was 2221111000. Roentgenograms revealed hypertrophic arthritic changes of the lumbar spine.

The first thoracic segment of the spinal cord had an irregular wavy outline. A cavity containing coagulated masses filling the left gray column was found at this level. Microscopically, fat droplets were found in round cells throughout the right lateral corticospinal tract and right anterior column. This finding was not present on the left, nor in the posterior columns. Nissl stains revealed an increase in glial nuclei throughout the gray matter on the right, and in the anterior half of the left lateral horn. The number of anterior horn cells was decreased. Neurons were swollen and degenerated in the cervical region, but not at the lower lumbar and sacral levels. These changes were also seen in the cells of Clarke's column. The right anterior horn throughout the cervical cord was reduced in size. In the lower thoracic region, a small cell infiltrate of the pia-arachnoid was interpreted as an acute leptomeningitis. Degeneration of different degrees was seen in the motor nuclei of the brain stem.

Comment: This patient had a step-like progression of muscular atrophy, asymmetric fasciculations, and symptoms of an irritative lesion of the nerves in the lumbosacral distribution. The pathologic picture was that of an asymmetric myelopathy. The diagnosis of A.L.S. is made clinically by evidence of progressive widespread damage to the anterior horn cells and the lateral corticospinal tracts; this patient never had signs of corticospinal tract involvement other than an exaggerated jaw reflex.

Pathologically, the diagnosis is made by finding systematic bilateral degeneration of the corticospinal tracts, and loss of neurons in the ventral horns with degeneration or atrophy of those remaining, but usually without alteration in shape or size of the horns of the gray matter.[11] In this case, demyelination of the corticospinal tract was present, but only on one side. A decrease in the number of ventral horn cells was observed at cervical levels, but not in the lumbosacral part of the spinal cord. The right anterior horn was smaller than the left throughout the cervical region. In addition, necrosis of tissue was found in the first thoracic segment, a finding inconsistent with the diagnosis of A.L.S. These clinical and anatomic considerations indicate that the spinal disease was not A.L.S.

Two other cases of sensory changes were reported by Davison and Wechsler in 1936.[15] Their first patient was a 51 year old man with a history of one year of numbness and stiffness in the left hand, gradually spreading to the right hand, and later involving the lower extremities. Atrophy without fasciculations was noted in the forearms and intrinsic muscles of the hands, and muscular power was generally decreased. The deep tendon reflexes were greatly increased, the

abdominal reflexes were active and bilateral Babinski responses were present. Position sense was severely impaired in the fingers. The patient had difficulty recognizing objects in both hands, although he could appreciate relative size, shape, weight, etc. Two-point discrimination was impaired, but pain, temperature, and touch sensations were intact. *The symptoms did not change from December 1929 until April 1931,* when he died with bronchopneumonia. Routine tests on blood, urine, gastric contents, and cerebrospinal fluid were normal, and tests for syphilis on cerebrospinal fluid and blood were negative.

Microscopically, the giant cells of Betz were decreased in number and slightly swollen in the precentral gyrus, and the ganglion cells contained fat. Slight pallor of the pyramidal tracts was the only change in the brain stem. The crossed pyramidal tracts in the spinal cord ware demyelinated from the cervical to the sacral segments (fig.2).



Fig. 2. Photomicrographs of six levels of spinal cord. See text for details of different interpretations. Weil stain, x 5.

Demyelination was found in the fasciculus cuneatus in the eighth cervical, and first and second thoracic segments, but the posterior columns were not degenerated at higher cervical levels. In addition, at the first and second thoracic levels, the spinocerebellar and dorsolateral (Lissauer's) tracts were degenerated. Lipid was seen in the destroyed areas. The anterior horn cells were decreased in number throughout the cord and the remaining cells were shrunken, pyknotic, and had chromatolytic alterations. The process was most severe in the eighth cervical and first thoracic segments.

The authors concluded that, except for impairment in two-point discrimination and position sense in the hands as well as astereognosisi the symptoms were typical of A.L.S. The possibility of subacute combined degeneration was ruled out by the normal blood count and gastric contents, and thus compelled the diagnosis of A.L.S. which was confirmed by the histologic evidence.

Comment: The preceding description is as given by the authors.[15] We were able to review the original material. The picture of the myelin sheath stains of various levels of spinal cord (fig. 2) is unusual. At one level (fig. 2D), said to be the first or second thoracic segment, the spinal cord is widely demyelinated except in the ventral columns and the border of the posterior colunms. Destruction of anterior horn cells is also more extensive at this level. The picture is characteristic of a transverse myelopathy from compression.[17] The section above the compression (fig. 2C), said to be eighth cervical, shows predominantly ascending demyelination, including part of the fasciculus cuneatus. Furthermore, although portions of the lateral column are demyelinated, both pyramidal tracts are relatively intact. The higher cervical sections (fig. 2A, 2B) have intact posterior columns, leading the authors to believe that C and D were unusual representations of an otherwise clearly symmetric loss of pyramidal tracts.

We suggest that a better explanation of these peculiar findings is a technical error

in a placement of the sections of spinal cord. If figure 2 were arranged CDAB rather than ABCD, the result would unquestionably be a transverse myelopathy: ascending degeneration in sensory tracts of lateral and posterior columns above the lesion, and descending degeneration of the lateral columns below the lesion. This interpretation is supported by anatomic, pathologic and clinical findings in this case.

The massive enlargement of the anterior gray columns, characteristic of the sixth through eight cervical segments, is seen in section A of figure 2. The large intermediolateral gray column characteristic of the eight cervical and first thoracic segments is noted in section B of figure 2. If section C of figure 2 were actually below A and B, it would be difficult to account for the absence of demyelination in fasciculus cuneatus in A and B. The greatest gliosis, destruction of anterior horn cells and axis cylinders, and lipid accumulation are found in the zones of destruction in section D of figure 2.

Clinically, this patient had a disease characterized by atrophy and hyperactive reflexes in the upper extremities, signs of posterior column involvement limited to the upper extremities, and a spastic paralysis of the lower extremities. These findings at first were slowly progressive, but then remained unchanged until death 17 months after admission to the hospital. This description is more compatible with a localized insult to the cervical cord and a non-progressive course, rather than the inexorable and widespread progression of A.L.S. Unfortunately, the cause of the compression could not be determined from the data available.

The second patient of Davison and Wechsler[15] was a 58 year old woman who fell and struck her right shoulder about one year before admission. She thereafter had burning cramp-like pains, becoming more severe and frequent, then spreading to all extremities. A roentgenogram of the shoulder was normal, but moderate spondylosis of the spine was found. Later, she had weakness and atrophy of the upper extremities, and spasticity of the legs. On admission, she was generally weak and unable to walk. Bilateral foot drop and spasticity of the legs were noted. Atrophy and fasciculations were present in the muscles of hands, forearms and tongue. She had exaggerated deep tendon reflexes, bilateral signs of Babinski, hypesthesia and hypalgesia in the distal portions of the extremities, absence of vibratory sensation in the lower extremities, but intact position sense. She progressively worsened, developed pulmonary edema and died eight months later, about 20 months after onset of symptoms.

The Betz and anterior horn cells were decreased in number, shrunken, and pyknotic. Both pyramidal tracts were demyelinated in the medulla oblongata and throughout the spinal cord. Between the tenth and eleventh thoracic segments, there was a "widespread demyelination of the posterior columns, dorsolateral fasciculus, lateral columns, dorsospinocerebellar tracts and parts of the spinothalamic tracts." Ascending degeneration of the fasciculus gracilis was prominent above the tenth thoracic segment.

The authors concluded that because this was not the pathologic picture of subacute combined degeneration, whatever was responsible for the amyotrophy was also the cause of degeneration of the other pathways, but that it was difficult to explain the massive destruction at only one level of the spinal cord.

Comment: The original material in this case was reviewed by us.[19] The diagnosis of A.L.S. is both clinically and pathologically acceptable. In addition, however, a transverse myelopathy is found at the lower thoracic levels of the spinal cord, and secondary ascending degeneration of the fasciculus gracilis. The history of trauma to the shoulder at the onset of neurologic symptoms and the roentgenographic evidence of spondylosis support the suspicion

that this patient had a transverse myelopathy as well as A.L.S. We favor the interpretation that the myelopathy was a complication added to, rather than an inherent part of, the primary disease.

Friedman and Freedman[16] reviewed the records of 111 patients with A.L.S., diagnosed between 1906 and 1950 at Montefiore Hospital. They stated that objective sensory changes were found in 11 patients. Two of these patients were reported by Davison and Wechsler[15] and have been discussed in this paper. Two others, aged 61 and 89, had loss of vibratory sensation alone. Vibratory sensation may be decreased or lost at the ankle in 15 per cent of persons 61 to 70 years old, and 50 per cent of those from 81 to 90; sensory changes in these two patients therefore could be associated with aging or diseases other than A.L.S.[18]

Sensory loss of a glove and stocking distribution was found in five of the eleven patients of Friedman and Freedman.[16] Sensory deficits of this type are usually attributed to diseases of the peripheral nerves or to hysteria. Peripheral neuropathy, polyneuritis, or posterior column degeneration have been described in deficiencies of the vitamin B complex to which patients with A.L.S. are liable because of dysphagia. Neuropathies may also be caused by toxins and many other agents. Whether of nutritional or other origin, the etiologic agent is difficult to determine without additional laboratory findings not available from reviews of old records. Our concern is whether it is correct to assume that the finding of peripheral sensory loss, explainable by many different mechanisms, should be attributed to A.L.S. simply because the hospital record contained statements of this lack of sensation. Scientifically, it would be as appropriate to find reports of fungal disorders of the toes in these patients and attribute the infection to A.L.S. Hysterical sensory loss cannot be diagnosed without further clinical data. The remaining two of the 11 patients had "segmental or long tract" loss of sensation, but details are not given, hence the patients cannot be further analyzed.

Recent reviewers of large series of patients with A.L.S. agree that sensory alterations are not a part of the disease.[19,20] Such findings as decrease in vibratory sensation in the lower extremities, meralgia paraesthetica, and analgesia over the dorsum of one foot were explained by some disease other than A.L.S. Hassin[21] in 1933 recognized that A.L.S. may be complicated by another disease with resulting sensory alterations, when he reported a case associated with subacute combined degeneration. Deficiency of vitamin B_{12} must of course be ruled out in any instance of alleged A.L.S. with systematic demyelination of the posterior columns.

Fincham and Van Allen[22] studied conduction in sensory nerves in 13 patients with A.L.S. and found normal action potentials in median and ulnar nerves, even in the presence of severe muscular wasting, in all patients but one. The exception was an isolated absence of sensory action potentials in the median nerve of a patient with minimal impairment of vibratory sensation and two-point discrimination. Further information about this patient was not given.

Engel, Kurland, and Klatzo[23] reported 11 patients in two families with a disease similar to A.L.S., but the inheritance was autosomal dominant, and the posterior columns were demyelinated in the three autopsied cases. The authors suggested that these cases might represent a form intermediate between A.L.S. and heredofamilial disease such as the spinocerebellar degenerations. The difficulties of allying these disorders are large, in part because the etiologic factors of both are unknown and because likeness of anatomic lesions is not sufficient evidence of similar causation. Amyotrophic lateral sclerosis is usually not hereditary in the United States. When an hereditary basis for a disorder is discovered, abnormal action of one or more genes is implied. If it can be shown that malfunction of similar genes

is responsible for the defects, then the disorders properly can be allied. Such data are lacking. The evidence then for intermediate form of A.L.S. is not available, and the conclusion of Engel et al.[23] is correct that "this possibility can be neither confirmed nor denied."

Summary

Reports since 1900 of sensory alterations in amyotrophic lateral sclerosis (A.L.S.) have been few. A case is reported in which sensory changes were the result of a coincidental spinal tumor and the consequences of its removal. Four previous case reports, with clinical and anatomic evidence of sensory changes, have influenced most authors who state that objective sensory alterations may occur as a result of A.L.S. Review of these cases and others found in the literature suggests that the sensory changes were part of another pathologic process coincident with the primary disease, or that the diagnosis of A.L.S. was an error. Studies of large series of patients with A.L.S. support the thesis that sensory alterations are not a part of the disease, but when present, indicate a coexistent disease or an incorrect diagnosis. The possibility of inherited intermediate forms of amyotrophic lateral sclerosis is considered, but verification is not yet feasible.

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Dipyridamole in Long-Term Treatment of Coronary Insufficiency

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A non-nitrate compound has been used with a high degree of success in the treatment of ischemic heart disease.

IN AN EARLIER STUDY[1] oral dipyridamole (Persantin®)* was of considerable benefit in the majority of a small group of patients with myocardial ischemia and angina pectoris, previously unresponsive to long-acting nitrates. Various animal and *in vitro* studies indicate that dipyridamole, a non-nitrate compound, exerts its beneficial effect by gradually improving the coronary collateral circulation and increasing the supply of energy-rich phosphates to the myocardium.[2-6]

Our favorable results, confirming those of other investigators,[7-10] prompted further trials of the drug in a larger series of patients. The main object of this study was to further assess the clinical efficacy of dipyridamole in maintaining improvement over long-term treatment in patients with ischemic heart disease.

Material and Methods

The study consisted of 98 private, ambulatory patients (64 men and 34 women) with mild to severe heart disease. They ranged in age from 33 to 87, two-thirds of the group being 55 or over. Most patients had coronary insufficiency with angina pectoris. Some also had one or more of the following disorders: congestive heart failure, arteriosclerosis, hypertension, diabetes, or pulmonary disease. Twenty-four had a history of myocardial infarction. The majority selected for the study had responded poorly to other conventional therapeutic agents, including long-acting nitrates; a few had had no previous therapy. Those who had sustained a myocardial infarction did not enter the study until they had fully recovered from the acute phase. Altogether, 104 patients were started on dipyridamole, but six were excluded from final evaluation because of inadequate treatment or follow-up.

Dosage. All patients started on 75 mg dipyridamole orally in divided doses before meals. As therapy progressed, daily dosage was reduced in two patients to 50 mg; and increased in eight to 150 mg, in one to 200 mg and in another to 300 mg.

Duration of treatment. This investigation was planned as a long-term study. However, since a number of patients entered the study later than others, individual duration of treatment varied from five weeks to 34 months at the final evaluation. Almost three-fourths of the group received the drug for one year or longer. Only two patients were under treatment for less than two months (Table 1).

Concurrent medication. Most patients took other medication as required, mainly, digitalis, reserpine, diuretics, anticoagulants, tranquilizers, or antidiabetic drugs. Nitroglycerin was used for the relief of an acute anginal attack.

Examinations and tests. Throughout treatment patients were examined every

*Persantin®, 2,6-bis-(diethanolamino)-4,8-dipiperidino-pyrimido-(5,4-d) pyrimidine, brand of dipyridamole, Geigy Pharmaceuticals, Ardsley, New York.

two or four weeks, and objective and subjective response was carefully recorded. Routine laboratory tests (and those indicated for concurrent disease) and electrocardiograms (ECG's) were done periodically.

TABLE 1

OVERALL CLINICAL RESPONSE AND DURATION OF TREATMENT

Duration (Months)	*Excellent*	*Good*	*Fair*	*Poor/ Worse*	*Total*
1- 2		2	3	1	6
3- 6	2		4	3	9
7-12	2	2	4	4	12
13-18	9	8	10	2	29
19-24	5	7	14	4	30
25-34		7	3	2	12
Totals	18	26	38	16	98

Criteria of response. Overall clinical response was judged according to decrease in (1) frequency and severity of anginal attacks; (2) nitroglycerin need; (3) dyspnea; and (4) fatigue; and (5) increase in exercise tolerance. Response was classified as follows:

Excellent—75 to 100 percent improvement.

Good—50 to 75 percent improvement.

Fair—25 to 50 percent improvement.

Poor/Worse—0 to 25 percent improvement, or worse.

Results

Final evaluation showed that 82 of the 98 patients improved on dipyridamole (Tables 1 and 2). An overall satisfactory clinical response was maintained in 44 patients, with 18 *excellent* and 26 *good* results. In 38 patients response was *fair,* and the remaining 16 showed little or no improvement (14 *poor* and two *worse*).

TABLE 2

OVERALL CLINICAL RESPONSE AND SEVERITY OF DISEASE

Severity	*Excellent*	*Good*	*Fair*	*Poor/ Worse*	*Total*
Severe	1	1	4	5	11
Moderate	10	18	20	7	55
Mild	7	7	14	4	32
Totals	18	26	38	16	98

In those who improved, symptoms became less frequent and severe or disappeared entirely as recorded by the changes in anginal attacks, nitroglycerin requirements, and the degree of dyspnea, fatigue and exercise tolerance (Table 3). These changes usually became evident by the end of three months, and earlier in a few cases.

TABLE 3

IMPROVEMENT ACCORDING TO INDIVIDUAL CRITERIA

Overall Clinical Response	No. Patients	Anginal Attacks	Improved	Nitroglycerin Need	Reduced	Poor Exercise Tolerance	Improved	Dyspnea	Improved	Fatigue	Improved
Excellent	18	17	17	2	2	17	16	18	16	16	12
Good	26	26	23	13	13	25	22	24	22	23	16
Fair	38	37	32	13	10	35	22	33	12	32	12
Poor/Worse	16	16	3	11	1	16	2	16	1	16	1
Totals	98	96	75	39	26	93	62	91	51	87	41
Percent of patients improved		78 1		66 7		66 7		56 0		47.1	

Among the 12 patients whose original daily dose of 75 mg dipyridamole had been changed, two on 50 mg maintained their improvement (one good and one fair); one on 200 and one on 300 mg showed no improvement from worse or poor; and eight on 150 mg improved to a greater degree (good or fair) on the higher dose.

Of 71 patients with ECG abnormalities, nine became normal, 15 improved, and 32

showed no change in their ECG patterns. In 15 patients the ECG's were not done at the time of final evaluation.

Eight patients died during the study after two to 29 months of treatment. All deaths were attributable to the patients' cardiovascular disease and not to any drug administered. Three of the eight patients had shown considerable improvement during the course of treatment and five had responded poorly.

Side effects. Three patients reported side effects which presented no clear-cut relation to dipyridamole therapy. One patient who complained of dizziness after each dose (25 mg) also complained of nervousness and palpitations after nitroglycerin; after four doses, dipyridamole was withdrawn and he was excluded from the final evaluation. Another patient developed a rash (on hands, ears and ankles) which appeared to be a contact dermatitis. The third reported slight, transient palpitations.

Comment

Of the 98 patients treated, 82 improved while on long-term dipyridamole therapy. In most, maximal clinical improvement was not evident until three months, although a few did respond earlier. It should be pointed out that the double blind technique was not used in this study, and the percentage of favorable responses possibly attributable to the natural course of the disease is unknown. However, the dose duration-response relationships confirm the result of other investigators[7-10] as well as those of our initial pilot study.[1] It was also of interest that several patients improved more rapidly when the daily dose of 75 mg was increased to 150 mg. It is possible that some patients who showed only a fair response may have done better on higher doses which are more widely used now than three years ago when the present study was started.

Since the majority of patients treated had shown less than desirable response to previously used therapeutic agents, our favorable results suggest that dipyridamole may act through a combination of specific mechanisms not ascribable to other drugs. These mechanisms, demonstrated in laboratory investigations,[2-6] relate to improvement of the intercoronary vessels and myocardial adenosinetriphosphate levels.

In view of the long-term administration of the drug in most patients, the general absence of side effects was remarkable.

Summary

Long-term therapy with oral dipyridamole, a non-nitrate compound, produced improvement in 82 of 98 patients with ischemic heart disease and angina pectoris. Satisfactory clinical response (excellent or good) was observed in 44, and fair response in 38.

The usual dose was 25 mg t.i.d., given for periods varying from one month to almost three years. About three-fourths of the group were under therapy for one year or longer. In a number of patients, increased doses of 150 mg daily induced greater improvement than the initial 75 mg dose. Maximal benefit was usually noted after three months. No significant side effects occurred with the use of the drug. These results confirmed those observed in an initial pilot study.

Dipyridamole is a useful agent for long-term therapy of patients with angina pectoris due to ischemic heart disease. The drug was well tolerated and in most patients was more effective than previously used medications including long-acting nitrates.

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Whither Northern Virginia?

The recent events in the selection of a "Medicare" carrier and the spade work being done in delineating an educational program under the Heart, Cancer and Stroke Federal Center proposal, point to the strange position that we find ourselves in Northern Virginia.

Economically we are closely aligned with the Greater Washington Metropolitan area. We share our patients with the business community and the main employer of the region, the Federal government. Our costs are high, both in our practice expenses and in our personal lives.

Politically we are however oriented toward the State as a whole. We live in Virginia and we are part of Virginia. We vote in Virginia and we pay taxes in Virginia.

We must continue to direct all our political activities, both medical and legislative, toward the fountain head and base of our support. We must make it clear to the folks in Richmond and Charlottesville, Lynchburg and Roanoke, that while we must be tied into the Washington Metropolitan area economically by necessity, we wish to be Virginians by choice culturally and politically.

Home is where your heart is, and our heart is in Virginia!

—Medical Bulletin of Northern Virginia

Acute Intermittent Porphyria

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This case report underlines the need for including acute intermittent porphyria in the differential diagnosis regardless of the patient's age.

THE ONSET of acute intermittent porphyria is commonest in the second through the fourth decades. Onset before puberty and after age 60 is rare. The present report is of a case in which symptoms developed for the first time at age 73.

Case Report

A 73 year old woman was admitted to Arlington Hospital, on September 4, 1963, after having had abdominal pain, nausea, vomiting and obstipation for three days. Examination revealed slight dehydration. The abdomen was soft and not distended although there was slight lower abdominal tenderness. The original diagnostic impression was intestinal obstruction.

Her symptoms persisted after treatment with nasogastric suction and intravenous fluids. Returns from the nasogastric suction were reported as feculent. Slight abdominal distension developed, but the abdomen remained soft. Plain films of the abdomen showed no gaseous distension or fluid levels. Barium enema showed diverticula in the sigmoid colon but no obstruction.

In the face of continued symptoms suggesting intestinal obstruction in an elderly woman with a possible diagnosis of mesenteric vascular thrombosis, it was decided to proceed with exploratory laparotomy. Surgery under thiopental sodium anesthesia revealed no abnormality other than a distended urinary bladder. Postoperatively the urine was reddish brown in color but did not contain red blood cells or bile. The Watson-Schwartz test for porphobilinogen was strongly positive at this time and on several occasions during the remainder of her hospital stay.

For 48 hours after surgery, she remained very drowsy and could not be aroused during some of this time. Blood chemistry determinations showed a severe hyponatremia with the lowest serum sodium concentration being 113 m. Eq per liter on the day of surgery.

Correction of the electrolyte balance restored a normal state of consciousness. She then made a good recovery and was discharged to her home.

In reviewing her history, the patient stated that she had begun to feel bad in August 1963 after receiving sulfa drugs as treatment for an inflammation in her left forearm following an insect bite. After a day or two of taking the sulfa tablets she refused to take any more. She told her physician that they made her feel terribly nervous and uncomfortable—"as if she would die or go crazy if she kept taking them."

She felt better after she stopped taking this medication, but continued to note some malaise up to the time of the present illness.

Two of the patient's daughters who were in this area were tested for porphobilinogen in their urine. This test was found to be positive in one of them. She gave no history of any illness or symptoms suggesting acute intermittent porphyria, but was considered to have this disease in a latent state. She was

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advised to avoid drugs which might possibly cause symptomatic disease.

Discussion

Acute intermittent porphyria is one of the types of hepatic porphyria according to the classification of C. J. Watson.[1] It is the commonest form of porphyria and the one most likely to be confused with other conditions.

The metabolic defect in this condition involves porphyrin precursors—porphobilinogen and delta amino levulinic acid, and porphyrins as such are not necessarily present in abnormal amounts in tissue, urine, or feces.[2] This inborn metabolic error is inherited as a dominant trait. The defect in metabolism may be present throughout life in a latent state or it may cause symptoms intermittently or continuously after onset.

Symptoms often seem to be initiated or made worse by the administration of drugs especially sulfonamides, barbiturates, and alcohol. In the case which is presented, symptoms followed treatment with a sulfonamide, and following a barbiturate (thiopental sodium), coma developed, apparently due to severe hyponatremia.

The patient's daughter, who has acute intermittent porphyria in the latent form, has been advised to avoid drugs which might cause her to develop symptomatic disease.

The mechanism of production of symptoms is not definitely known, but all can be explained on the basis of dysfunction of the nervous system. There may be cerebral symptoms ranging from nervousness and anxiety to psychosis and coma. Dysfunction of neural control of posterior hypophyseal function is felt to cause inappropriate A.D.H. production and cause the hyponatremia often seen in this disease.[3] Symptoms due to peripheral neuropathy and spinal cord dysfunction are also seen. Tachycardia and hypertension, either paroxysmal or sustained may be noted—apparently due to autonomic nervous system dysfunction.

The abdominal symptoms which are very commonly seen are felt to be due to spasm in the gastro-intestinal tract or genito-urinary tract due to autonomic dysfunction affecting smooth masculature. These symptoms include pain suggesting intestinal obstruction or renal or biliary colic, often accompanied by obstipation or urinary retention.

Neuropathological findings in cases of acute intermittent porphyria include demyelinization of cerebral and cerebellar white matter as well as peripheral and autonomic nerves. Retrograde degeneration of nerve cells of the anterior horns of the spinal cord and medulla have also been found.[4]

This disease most commonly becomes manifest in the third and fourth decade. Rarely does onset occur before puberty or after age 60. In Waldenstrom's report of 219 cases,[5] about 65% occurred between age 20 and 40, with about 4% in those over 60.

Summary

A case of acute intermittent porphyria becoming manifest at age 73 is presented with the clinical picture of abdominal pain and obstipation. It was initially mistaken for acute intestinal obstruction.

Even in the elderly patient, this metabolic disease needs to be considered in differential diagnosis.

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A Short History of the Life of a "First" Graduate of the University of Virginia Medical School

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This is a brief account of the medical education and life of a physician of a century and a half ago.

DR. WILLIAM M. KERR (or Carr) was born on February 25, 1810, in Powhatan County, Virginia, and attended the University of Virginia Medical School in 1826. It has been reported that he was one of the first graduates of the University of Virginia Medical School. He was the great-great-great-grandson of Sir Thomas Kerr who came to America about 1685 with a Crown grant of 25,000 acres of land in what is now Albemarle and Louisa Counties.

At approximately the age of 13, Dr. Kerr was placed in the boarding school of Dr. John Floyd, which was located between Powhatan Court House and Richmond. Dr. Floyd, Surgeon, Congressman, and Governor of Virginia from 1830-1834 proved to be a fine teacher for young Kerr.[1]

At the age of 16, Dr. Kerr entered the School of Anatomy and Medicine at the University of Virginia in Charlottesville. Dr. Robley Dunglison had come to Charlottesville from Scotland at Thomas Jefferson's request in 1825 to start the Medical School. Dr. Dunglison was Kerr's professor for anatomy and medicine. At that time, no clinical study was available.[2]

Two textbooks which were used by Kerr while attending the University of Virginia Medical School were, *The Family Female Physician, or a Treatise on the Management of Female Complaints, and of Children in Infancy* written in 1793 by Alexander Hamilton, M.D. and, *Dissertation on Medicine* written in Latin in 1701 by Archibald Pitcairne. These two books now belong to Mr. Horace Burr of Charlottesville who is Dr. Kerr's great grandson.

Dissertation on Medicine by Pitcairne was published in Rotterdam, Holland, in 1701. The copy is initialed by the author and is inscribed to the father-in-law of Pitcairne who was Sir Archibald Stevenson of Edinburgh. The library of Dr. Pitcairne was so famous that upon his death, the library was purchased by Peter the Great of Russia.

The author of the other textbook, *The Family Female Physician, or a Treatise on the Management of Female Complaints, and of Children in Early Infancy*, was Dr. Alexander Hamilton, professor of midwifery at the University of Edinburgh. In this book Hamilton gives a brief summary of the physiology of the human body at the beginning and then goes on to discuss such topics as the materials of which the body is formed, pregnancy, and management of children in early infancy. In the appendix appears writings regarding forms of medicines, directions for those who consult a physician by letter and hints regarding the choice of a nurse.

In 1831, at the age of twenty-one, Dr. Kerr decided to travel West. He had moved as far as Dublin, Indiana, when he was con-

MASSENGILL, RAYMOND, JR., *Director, Medical Speech Pathology, Duke University Medical Center.*

fronted with an epidemic of cholera. Two local physicians from New Castle had been trying to control the epidemic, but lost their lives in the struggle leaving this young University of Virginia physician with the great challenge of following in their footsteps. He was successful in controlling the epidemic and gained a wide reputation as a skilled physician. It was at New Castle that he met and married Narcissa Stanford, daughter of the Honorable Thomas Richardson Stanford, a Judge and Senator who had come from Warrenton, Virginia, in approximately 1818.[1]

Dr. Kerr developed an extensive practice and was highly successful as a frontier physician. On January 5, 1878, he died suddenly while treating a patient in his office. The obituary of this University of Virginia Graduate states: "His charities were profusely extended to the poor and the Church has partaken largely of his gifts." [3]

The University of Virginia can hold a high respect for this early graduate of their Medical School. He was not only a credit to his profession, but to all mankind.

Among the medical equipment that Mr. Horace Burr has that belonged to his great grandfather, Dr. Kerr, is a medical lamp intended for the burning of herbs to clear the atmosphere of "vapours". On this lamp is a small bronze statue, Mercury, with the emblem of two serpents. These two serpents are a symbol used by many physicians even today. A much larger form of this rare lamp by the Florentine sculptor, Giovanni De Bologna (1524-1608), is in the Bargello Gallery in Florence.



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Duke University Medical Center
Durham, North Carolina

Digitalis—Would FDA Approve It Today?

". . . I would hate to be introducing digitalis as a new drug today. Anyone reading the toxicity and side effects would never use it in the present climate. However, digitalis has been with us long enough now that the toxicity and side effects have taken their proper place. They are there, to be sure, but not as prominently as the therapeutic effect.—Robert W. Ballard, M.D., in *Food Drug Cosmetic Law Journal* (21:31-32), January 1966.

Clinicopathological Conference . . . .

Post-operative Pulmonary Lesion and Heart Failure

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Clinical Discussant:

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This conference was held on April 17, 1965

UVH #52-81-08

Clinical History

This 50-year-old Negro cement finisher was referred to the chest surgery service because of dyspnea, weakness and a persistent pulmonary density. He had been in apparent good health until approximately six weeks previously, when he was admitted to another hospital because of right lower quadrant pain suggesting appendicitis. A laparotomy had been performed with entirely normal findings. About a week postoperatively he had developed cough. A right lower lobe infiltrate on x-ray was interpreted as pneumonia. He was treated with penicillin with only temporary improvement. During the three weeks prior to referral here he became dyspneic, weak and anorectic. There was cough with hemoptysis and probable weight loss. He returned to the same hospital, where he was found to have slight fever, decreased breath sounds and a persistent infiltrate in the right lower lung field on x-ray. He denied chest pain or orthopnea, but noted that breathing was easier if he lay on his right side. Because of his steady increase in dyspnea and weakness he was referred here.

Past medical history was unremarkable except for gonorrhea many years ago and an episode of pneumonia with temperature of 104 degrees two years ago, treated successfully at home. He had smoked for many years.

Physical Examination: A thin, middle-aged male, who was acutely dyspneic with marked jugular venous distention. BP 90-100/80-90; significant paradoxical pulse could not be demonstrated. T 99.8 rectally, Resp. 30 per minute. The left pupil was less reactive than the right. There were rales over the right side of the chest and dullness at the right lung base. The heart was enlarged to percussion, there was no palpable apical impulse or gallop, no murmur, and P-2 was not remarkable. Heart sounds were generally distant. The liver was down 4 cm., firm and non-pulsatile. The left leg was thought to be slightly larger than the right, although no tenderness or other sign of inflammation was present.

Laboratory studies: Hematocrit 42%, WBC 13,800 with a shift to the left. Urine pH 6, SG 1.030, 1+ albumin and 15-20 wbcs in the sediment. Wassermann ± and Reiter protein 3+. Sed. rate 11 mm/hr. Prothrombin time 14.5/11.5 sec, blood sugar 134, urea 84 mg%, CO_2 23, Cl 98, Na 131 and K 5.8 mEq/L. ECG showed sinus tachycardia and old diaphragmatic infarction (Fig. 1). Chest x-ray showed an area of increased density in the right lower lung field with fluid in the major fissure and marked, generalized cardiomegaly.

Hospital course: Venous pressure was 275 mm. saline in the arm. Because of the high venous pressure, narrow pulse pressure, distant heart sounds and globular cardiomegaly, tamponade was considered. Fluoroscopy revealed little or no pulsation of the ventricles with some pulsation of the pulmonary artery. A pericardiocentesis was performed, and no fluid was obtained. The

patient was transferred to the medical service, where treatment was begun with oxygen, morphine and parenteral digitalization. Metaraminol was used in an effort to maintain blood pressure, which remained around 110/60. He remained restless and dyspneic. About 18 hours after admission he complained of feeling hot and having to void, at which point his eyes became fixed and respirations gasping, followed by cardiac and respiratory arrest.

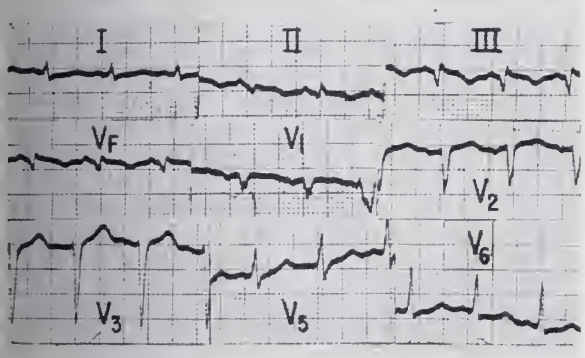


Fig. 1. This electrocardiogram was interpreted as indicating a diaphragmatic myocardial infarction, probably old.

Clinical Discussion

Dr. Stuart Bartle: This season of clinicopathologic conferences is almost over, and I will be one of the last batters. Actually after reading over this case I feel more like an outfielder in that new Houston stadium trying to catch a fly ball. Basically, this story can be summarized as one of the onset of cough and hemoptysis a week after a negative laparotomy for abdominal pain. This was followed by congestive heart failure which progressed to death within about five weeks. Many possibilities were considered to explain his pulmonary and cardiovascular problems, both at the referring hospital and during his brief stay here, but none of the studies done were conclusive. The chest x-ray should provide important information, so I would like to begin with a review of these.

Dr. William Craddock: The first film is a flat plate of the abdomen. I am not sure why it was taken. It shows a dilated loop of bowel of doubtful significance. This man was said to have been a cement finisher, raising the possibility of silicosis when we look at the chest. The chest films do not show any changes which would cause me to pursue that lead. The heart is large. The enlargement seems to be generalized, and I can detect no pattern of increase in size of specific chambers which might be helpful. There is an ill-defined density in the right lower lobe, an infiltrate which is most compatible with an inflammatory process, taking the history into account. It could be tumor.

Dr. Julian Beckwith: Are the main pulmonary artery and its branches large?

Dr. Craddock: Yes. The enlargement of the pulmonary arteries does not seem out of proportion to the other suggestions of congestive heart failure, however, and tumor could not be excluded.

Dr. Bartle: So we are left with three main possibilities to explain the pulmonary findings: Tumor, infection, congestive failure, or a combination of these three. Is that right?

Dr. Craddock: Yes, and I must add another. The right lung infiltrate could certainly be an infarct. On the next film there is more prominence of the pulmonary veins, supporting the suggestion of left-sided heart failure. The increased opacity at the right base must be at least in part due to pleural fluid. The heart shadow has increased further in size, and I can not tell whether this is due to pericardial fluid or not. We would have to inject carbon dioxide or perhaps some dye via a catheter to distinguish this. We would have no way of identifying the cause of the pulmonary parenchymal density.

Dr. Bartle: Can you say whether the heart failure was more "right-sided" or "left-sided"?

Dr. Craddock: The left atrium does seem large in one of the films, and the prominent pulmonary veins also suggest that the left side was affected.

Dr. Bartle: A most striking feature of the University of Virginia Hospital admission was the severity of his right-sided heart failure, manifested in the marked jugular venous distension. There was little peripheral edema, suggesting recent onset of the pathological process, since evidently no sustained diuretic therapy had been employed. It would be helpful to know more about how good this man's health really was just prior to his laparotomy in order to evaluate the possible presence of occult heart disease which had then rapidly progressed during the ensuing six weeks. Chest pain is not mentioned, there is no information about previous blood pressure readings, and we do not know the size of the heart before the terminal illness.

There are three major ways to explain the manifestations of right-sided heart failure: (1) pulmonary vascular obstruction; (2) decreased distensibility, as in pericardial tamponade; and (3) secondary to left-sided heart disease. First, obstruction at the level of pulmonary vessels might result from multiple emboli. I am dismissing cor pulmonale secondary to primary pulmonary disease because of insufficient evidence for ventilatory problems by history or physical examination, or diffuse interstitial disease by x-ray. The mention of unequal leg size promotes consideration of venous thrombosis and, as Dr. Craddock has pointed out, the right lung infiltrate may well be a pulmonary infarction. Parenthetically, I wonder if the fact that the predominant pulmonary lesions were in the right lung accounts for his decreased dyspnea when lying on his right side? I am persuaded against pulmonary vascular obstruction being a major problem, however, for two chief reasons: one, there is, I feel, good evidence for left atrial enlargement on x-ray; and second, the very poor pulsations of the left ventricle both indicate a more generalized cardiac involvement.

The major differential diagnosis in my mind is between pericardial tamponade and diffuse myocardial disease involving the left ventricle. The lack of orthopnea in the other hospital favors pericardial tamponade, since restriction of inflow to the right ventricle may prevent excessive elevation of pulmonary venous pressure. Orthopnea is not specifically mentioned in our record, but I think we must not infer its absence. If anything, it seems to me just as likely that a house officer might omit this finding because it seemed to him superfluous. The narrow pulse pressure was striking and suggests pericardial tamponade, but this sign may certainly be seen with a small stroke volume due to other causes. Pulsus paradoxicus, of course, is associated very often with pericardial tamponade. Its absence here may be meaningful. The findings in the heart are non-specific. Large, quiet hearts can be found with a very low stroke volume being delivered at a low ejection velocity—as in myocardial failure—as well as in pericardial tamponade. The absence of an accentuated third heart sound, or gallop, favors tamponade. The absence of a pulsatile liver would not help to distinguish these two problems: though often present in the pericardial restrictive disease, it may also be seen with tricuspid incompetence as the right ventricle enlarges acutely. Fluoroscopy may not distinguish between the two diagnoses—a large, very quiet heart may appear identical to a small one which is surrounded by fluid. Careful viewing of atrial borders often is a help, but atrial fibrillation or flutter or a rapid sinus tachycardia may blur the distinction here as well. The laboratory findings can not help us in this case, I believe, with the exception of the electrocardiogram. Dr. Beckwith, can you give us your interpretation?

Dr. Julian Beckwith: There are Q waves in leads III and aVF which are good evidence for a diaphragmatic myocardial infarction, probably old (Fig. 1). The S wave in lead I, indicating terminal depolarization of the right side of the heart, is some evidence for pulmonary hypertension, but is not very strong. The voltage in the limb

leads is low, but that is not likely to be helpful.

Dr. Bartle: Until yesterday I felt that the person doing the pericardial tap did not go far enough. The rate of evolution of this illness, distended veins, diminished heart sounds, absence of palpable apical impulse or gallop sound, and narrow pulse pressure all fit cardiac tamponade very well. I have been told, however, that this tap was attempted quite thoroughly from both apical and sub-xyphoid approaches. This leaves us with several possibilities still. There are restrictive kinds of disease of the myocardium which especially tend to simulate cardiac tamponade. Such conditions would include subendocardial fibroelastosis or amyloidosis. Both sides of the heart were involved. The only cause for which a bit of positive evidence is given is the diaphragmatic infarction on the electrocardiogram. The pulmonary problem then would require a separate interpretation. There are, as Dr. Craddock has said, no features available to help distinguish infection from tumor or infarction.

Dr. Thomas Hunter: It seems to me you have played down the possibility of pulmonary emboli too much. What more could you want than a post-operative pulmonary lesion, hemoptysis, and later relatively sudden death? This man ought to have a major pulmonary embolus.

Dr. Bartle: I agree with you, but I don't think it is enough to explain the whole thing. There was poor left ventricular pulsation. The left atrial enlargement suggests left heart failure, and there was no accentuation of the pulmonary second sound or right ventricular heave noted. Something has to be involving the left side, and the only piece of positive evidence is the infarction on the electrocardiogram. What were the student diagnoses?

Dr. Burton Benjamin: A majority of the students favored pulmonary emboli, many felt in combination with some type of primary myocardial disease. A substantial minority favored bronchogenic carcinoma with pericardial involvement.

Dr. Stuart Bartle's Diagnosis

1. *Arteriosclerotic heart disease with left and right ventricular failure and diaphragmatic infarction.*
2. *Right lower lobe pulmonary lesion, either infection, tumor or infarction.*

Pathological Discussion

Dr. David E. Smith: The spirited contributions to this discussion by Dr. Hunter and others focus our attention on Dr. Bartle's dilemma of interpreting all or parts of the clinical events of this case as due to lesions primarily in the lung or the heart. Let me begin by reporting that at autopsy there were no significant accumulations of fluid in any of the serous cavities: a finding that confirms Dr. Bartle's wisdom in finally rejecting a diagnosis of cardiac tamponade.

The heart was enlarged to a mass of 500 gms. As is illustrated in Fig. 2 the high pos-



Fig. 2. The opened left ventricle of the enlarged heart showing thinning and scarring of the left posterior papillary muscle and a scar of the high posterior septum and wall that bulges outward.

terior septum and wall of the left ventricle were thinned and bulged outward from the ventricular lumen because of a grey scar. The same scarring was responsible for thinning and flattening of the posterior papillary muscle and extended into the adjacent posterior wall of the right ventricle and medial tips of both ventricles (Fig. 3). The

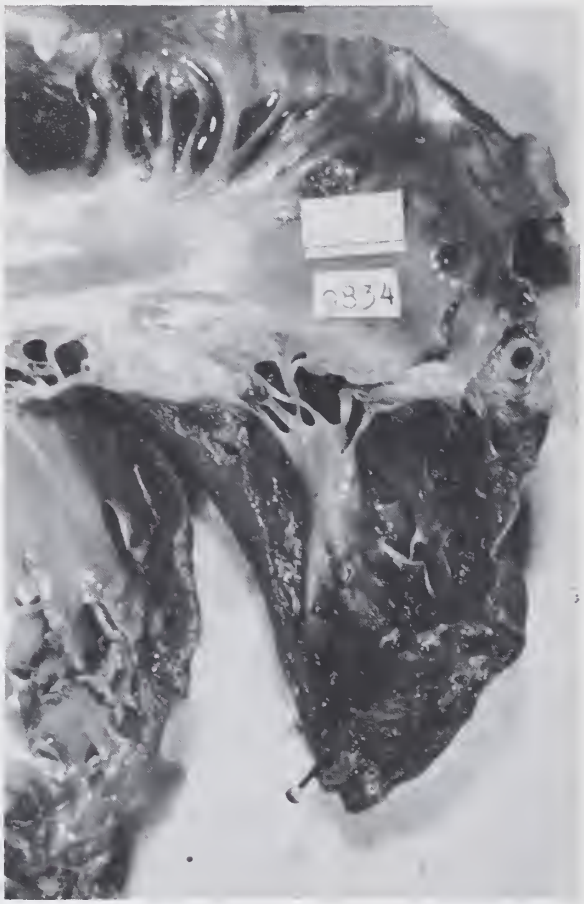


Fig. 3. The lateral wall of the right ventricle with the posterior edge on the right. A recent thrombus fills this portion of the right coronary artery; there is scarring of the myocardium; and a thrombus is wedged in the trabeculae.

coronary arteries were the seat of marked atherosclerosis. The dominant right coronary artery was occluded by an organized thrombus 5 cm. from its origin and filled distally with more recent thrombus. The left anterior descending artery was also occluded by an organized thrombus 2 cm. from its origin.

Figure 4 is of a section of the scar in the myocardium. It was fibrotic and clear of all scavenger cells. Although some small scars were more vascularized than this, there was no acute necrosis or reaction, and it appears that this infarct of the heart is months old, considerably antedating any event in the present illness. In the tip of

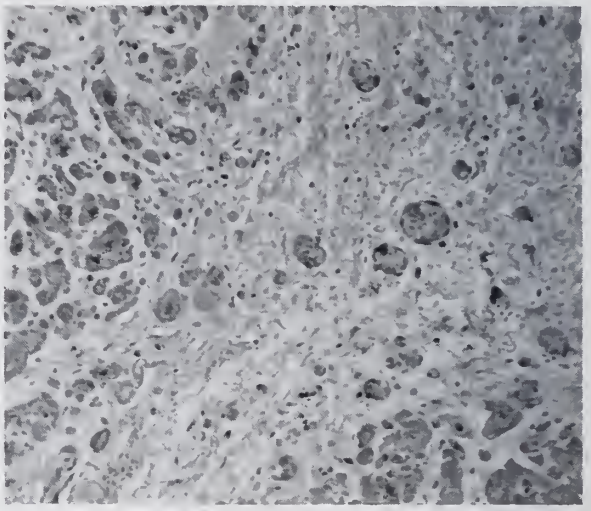


Fig. 4. The scarring of the myocardium is still slightly vascularized but has lost all evidence of acute reaction. (H. and E. stain, 160 X).

the right ventricle there was a small mural thrombus overlying the scar. This lesion, as well as involvement of the wall of the right ventricle, is relatively unusual in a case of myocardial infarction. When they do occur it is nearly always in a case with a large infarct of the left ventricle and septum which extends in continuity into the right ventricular wall. Involvement of the right ventricular wall in infarction is consequently nearly always posterior.

The lungs were heavy, moist and very congested. Thrombi were present in several smaller pulmonary arteries and one occluded the artery to the middle lobe of the right lung which was completely infarcted. This infarct was of fairly recent appearance. In microscopic sections many smaller thrombi were discovered and some (Fig. 5) were undergoing organization indicating an age of several weeks.

The liver was hugely enlarged and markedly congested with all the features of chronic passive congestion. It, of course,

did not pulsate when we examined it, and there was no tricuspid lesion or other reason to make us suspect any inaccuracy in the observations recorded clinically.

This patient was not known to have been hypertensive and the kidneys bore no evidence of disease. We consequently consider

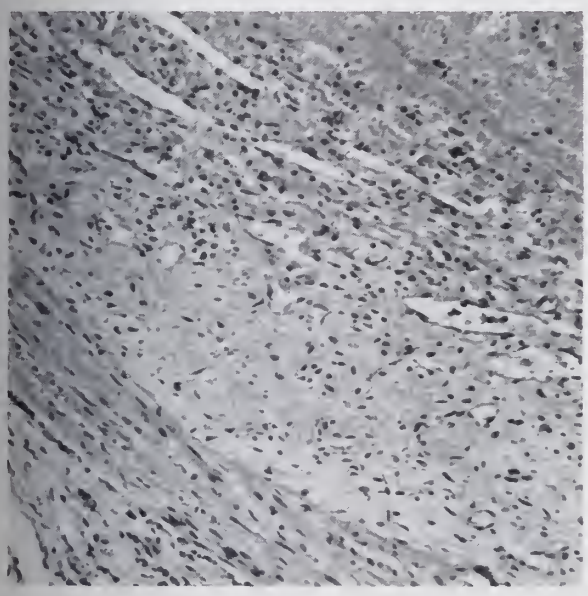


Fig. 5. A section of the wall and thrombus in a small pulmonary artery indicates an age of one to several weeks by displaying laked erythrocytes in the upper right and invasion of the thrombus by blood vessels and fibroblasts from the arterial wall in the lower left. (H. and E. stain, 160 X).

the cardiac enlargement to be related to scarring and muscular hypertrophy related to the myocardial infarct and perhaps to the way in which this man must have continued his usual activities while the infarct was acute as well as subsequently. This is an example of a clinically silent myocardial infarct, and it is noteworthy that Dr. J. Edwin Wood, Jr., has repeatedly called to our attention in these conferences that this phenomenon occurs with undue frequency in Negro males such as this patient.

In summary, it is apparent that instead of a rare disease this was a common one—cardiac failure following an old myocardial infarction complicated by pulmonary infarction. The unusually conspicuous element of right sided failure must have had its roots in the uncommon involvement of the right ventricle and been complicated and accentuated by the many thrombi in the lungs. We suspect most of these were emboli from the unequally swollen legs, but some may have arisen from the mural thrombus in the right ventricle or have formed in the congested pulmonary arteries. We found no more explanation for the episode of abdominal pain six weeks previously than had the patient's surgeon. It might have been an atypical or mistaken referral of pain from the infarct of the right middle lobe of the lung, although this lesion appears to be more recent, and it may have had a component contributed by acute congestive distention of the liver.

Anatomical Diagnosis

1. *Atherosclerosis of the aorta, and coronary and basilar arteries with organized and recent thrombi in the coronary arteries.*
2. *Healed infarct of the posterior interventricular septum and posterior walls of the left and right ventricles.*
3. *Marked chronic passive congestion of the liver.*
4. *Mural thrombus in the right ventricle, recent and organizing thrombi in branches of the pulmonary arteries, and infarcts in the right lung.*

Mental Health . . . .

LEO E. KIRVEN, JR., M.D.

A Study of Suicides in a State Mental Hospital System

Probably more Americans have died at their own hands in the past twenty years than died in World II, the Korean War,.and the South Viet Nam conflict combined. In the United States there is one suicidal death every twenty-four minutes. It is reported to be the tenth major cause of death in this country.

Is suicide a sign of mental illness? I feel suicide itself is not diagnostic of a specific mental illness but it is usually the result of disturbed thinking. It is certainly a desperate affair, although in reality people who kill themselves are rarely the dramatic figures portrayed in the movies or in fictitious novels. There is a popular concept in most communities that suicides are generally old, sad, tired and lonely men who are frequently physically ill and almost always have a psychiatric illness. Such a description is not always accurate of the patient who commits suicide in a mental hospital. Suicide is a tragedy that almost always involves many other individuals close to the patient. It is ugly to those who must discover the tragedy harrowing for relatives, and generally perplexing to the physician. Suicidal patients are people who have been trapped in an overwhelming distressing situation from which they can see no visible way out.

Very few studies have been done concerning the suicidal rate in a mental hospital, even though such deaths are usually well documented and accurately verified and reported. Unlike suicide, or "probable suicide" in a community, those suicidal deaths which occur in a mental hospital are usually easily recognized. All such deaths are always reported to the Medical Examiner and thoroughly investigated.

For the seven year period from January 1, 1959, through December 31, 1965, there were 19 deaths reported as a result of suicide in the five major mental hospitals in the Department of Mental Hygiene and Hospitals in the Commonwealth of Virginia. This particular study deals only with suicide among patients in these five major hospitals. During that period of time the average daily combined census of the five hospitals was approximately 14,422. Interestingly enough the largest number of suicides in a single hospital during the period of time studied did not occur at the hospital with the largest patient population. The suicidal death rate reported here is essentially the same as that which has been established as the national average among the adult population of the United States.

The following table is a breakdown of the diagnostic coding of the 19 suicides reported:

11—Schizophrenic Reaction
4—Depressive Reaction
3—Not Mentally Ill
1—No Diagnosis

The mode of death which each patient chose was somewhat varied.

10—Hanging
4—Drowning (all four deaths occurred at the same hospital)
2—Jumped from high places (both deaths occurred at the same hospital)
2—Gunshot wound of the head (one occurred prior to admission to the hospital with death occurring

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

after admission and one while patient was on a 72 hour pass away from the hospital)

1—Laceration with resulting hemorrhage.

In the 19 deaths occurring during the 1959-1965 period, the average age of the patient was 45 years, the oldest being 67 and the youngest, 24. Fifteen of the 19 patients were male and four were females. Of the 19 cases studied, 17 had a history of previous hospitalization in a psychiatric hospital. Of the two remaining patients, one had been hospitalized on his first admission for a total period of 19 years, six months and 17 days which was the longest period of hospitalization of any of the cases studied. The least period of time that a suicidal patient was in the hospital was two days which was the case of a gunshot wound, the act of having taken place prior to the admission of the patient to the hospital. This individual had had previous hospitalization and had made previous unsuccessful suicidal attempts.

Farberow, Shneideman and Leonard in their book, "A Cry For Help", have done a limited study on suicide among patients confined to a mental hospital. Their study deals with those individuals with a psychiatric diagnosis of schizophrenia. These authors have pointed out that a mental hospital staff is faced with the careful and continuous assessment of the suicidal potentiality in all patients admitted to, treated in, and released from the hospital.

Often the deciding factor for commitment and admission of an individual to a state mental hospital is the behavior of such an individual which indicates he may be dangerous to himself and/or to others. Most people feel that psychiatric hospitalization should offer some protection of an individual against himself. We know that confinement in a hospital may be the last resort for a person who is so disturbed that he can no longer exercise appropriate judgment and control in relation to harming himself. The hospital staff is delegated the responsibility of providing physical safety as well as psychiatric treatment for the suicidal hospital patient. Treatment is always expected to be progressive, helpful, and in the best interest of the patient. Even with protective measures, patients who have suicidal intentions may find a way and method to end their lives in a mental hospital. It has been said that even when suicidal tendencies are recognized in patients it may be against their best interest, psychiatrically, to use restraining forces, such as strait jackets, handcuffs, or restraints of any kind in confining these individuals within a limited environment. Such restraints may retard their natural progress in regaining health, both mental and physical, and therefore, could defeat the primary purpose of psychiatric hospital treatment. A suicidal patient within a hospital may improve under treatment; however, even with improvement he may continue silently to be preoccupied with suicidal thoughts and wait until the convenient time arises to complete the act whether he is in a hospital or has been released.

Dr. Earl Cohn of the Department of Psychiatry of the University of California has stated that there is some doubt in the widely held belief that suicide may be predicted on the basis of "seriousness of the intent" of a previous attempt at self-destruction. Today most psychiatrists recognize that trivial suicidal gestures by a patient should not be ignored. Seventy-five per cent of successful suicides show a history of a previous attempt or threat. An initial gesture may be the forerunner of a more lethal suicidal attempt. It is felt that often a suicidal gesture is the way an individual may make his "cry for help" known, especially when he has been unable to verbalize his morbid self-destructive thoughts.

All types of treatment have been recommended and tried in the care of suicidal patients, including symptomatic therapy, psychotherapy, milieu therapy, electric convulsive therapy, sub-insulin shock therapy, ataractic drug therapy and surgical treat-

ment, including lobotomy. Even with these multiple types of treatment, many patients do not improve and are able to carry out their suicidal intent. No single basic treatment method appears to have improved the suicidal patient's ability to adjust more satisfactorily to his environment. Treatment, if helpful, should be continued throughout the period of hospitalization, with follow up in the community, if we are to prevent this drive of the disturbed individual. Even with the most careful observation and planning there is no assurance that tentative improvement under treatment will be a permanent process in the suicidal patient.

It has been theorized that in some patients the use of large doses of tranquilizing drugs may mask the clinical picture of psychosis, yet not relieve the inner tensions felt by the psychotic patient. The patient may appear to be improved, or may be given privileges within the hospital on the basis of his apparent clinical improvement, or may be released from the hospital to be returned to his community. If he is returned to the community and to the same stressful situation from which he has been admitted, it is possible that his return into such an environment will produce abrupt suicidal behavior even if there has been no history of a previous suicidal attempt or gesture or threat. We have very few statistics on individuals who have committed suicide while away from the hospital on trial visit or after being discharged. One of the deaths reported in this study occurred while the patient was on a 72 hour pass away from the hospital. The patient was the youngest reported in this study, his age being 24 years. He had a total hospitalization of two months, 15 days and died of a gunshot wound to the head. There was no history of any previous suicidal attempt, threat or gesture in his record or in his behavior.

There has been speculation that psychosis may be a protective shield against suicidal impulses in schizophrenic patients. If suicide occurs most frequently while the patient is in remission from his psychosis, then is a psychotic state the shield which protects the patient from overt suicidal behavior during his disturbed period? If such a theory is correct, then the partial lifting of a suicidal state without substituting adequate new defenses *may* leave the patient at the mercy of his tensions. Often the partial lifting or easing of a psychotic state is accomplished through medication. Such improvement may bring the patient into a new state of insight that could be unpleasant, even painful to him, and unless there are adequate therapeutic substitutions or solutions to this new situation, such insight may prove intolerable and unacceptable to the patient and produce irrational behavior ending in suicide.

There are 11 schizophrenic patients among the 19 cases studied in this report. Several of these 11 had been reported as indifferent toward hospitalization with no motivation toward improvement, yet they committed suicide when the opportunity presented itself.

We must be constantly alert to possible suicides within the hospital population. Patients who are given ground privileges, initially, should have some indirect personnel supervision. We have found that often any type of new treatment or medication may give temporary relief to the demanding suicidal patient. The medical staff should give recognition to the fact that an excessively complaining, demanding, depressed patient may be making known his desperate need for care and support. Careful evaluation should be given to such complaints and behavior. The staff must be aware that repeated suicidal threats and suicidal gestures are to be taken seriously. The fact that this type of behavior is an attention-seeking device does not mean that the patient will not kill himself. Often such behavior precedes the actual suicide and whether the suicide is accidental or carefully planned, the loss of the patient through death is the same. The psychiatrist must be alert to the fact that medication, though

helpful, may mask the inner turmoil of the patient and can make him appear improved clinically while the basic psychiatric illness is unchanged.

In the 19 cases studied, it has been found that there is no set pattern in the behavior of a suicidal patient. Suicide may occur soon after admission to the hospital (one to fifteen days) as it did in six of the studied cases, or it may occur at any time during a period of prolonged hospital stay. It may occur in individuals who have been approved for release from the hospital but have not yet been able to leave.

Careful planning of post-hospitalizion is absolutely necessary in known suicidal potentials. The patient who leaves the hospital with indifferent or indefinite plans, (especially with a history of possible suicidal threats or gestures) may be a poor risk for release. Such individuals may request to stay in the hospital and if they are "pushed back" into the community and into the same stressful situation from which they were admitted, then suicide may seem their only answer to salvation.

Suicidal thoughts may be difficult to elicit from the patient on interview. Such individuals can have an illness that may be difficult to diagnose. Such thoughts apparently produce a most anguished condition that leaves the patient with a feeling of such complete hopelessness that he seems to prefer death to such suffering. We must not accept the theory that once an individual has attempted suicide and failed, he will not repeat the act or will never actually take his own life. In the 19 cases studied over a seven year period in the Virginia Department of Mental Hygiene and Hospitals, 12 patients had either made previous suicidal attempts or had been known to threaten suicide. We cannot accept the myth that people who constantly talk about suicide will not carry out the act.

We need to improve our methods of research into suicide and to learn more about its prevention. It has been recommended that we should examine psychiatric patients with the following conditions under consideration, particularly when suicide thoughts may be suspected:

1. Communication (direct or indirect) of suicidal intent.
2. History of previous attempts, gestures or threats.
3. Age and sex.
4. Study of onset of illness. (Chronic depression and other chronic illnesses seem to be more potentially suicidal.)
5. Evaluate methods of previous suicidal attempts. (Has the planning been careful, is it violent?)
6. Anniversary reaction. (Suicide among individuals who put great stress on anniversaries is worth consideration. The anniversary syndrome is well established and we must look toward any identification that the potential suicide patient may be making with individuals who have previously committed suicide.)

Dr. Adolph Meyer is reported to have once said that a mental hospital which has no suicidal deaths is not a progressive hospital. Those hospitals which supervise and "guard" their patients so closely that a suicide can never occur are not progressive in their treatment. Although one cannot condone suicide, we must understand that an individual who is determined to take his own life will find the means to do so regardless of his environment or our most careful precautions. We are aware that suicides occur among inmates of all jails, individuals confined in solitary confinement, and within penitentiary work farms where supervision and control of the individual would seem to be at a maximum. Therefore, it should come as no surprise to anyone that suicide may occur among the population of a mental hospital where a relaxation of control and supervision of the patient is a part of a progressive, therapeutic program for many patients.

A physician must constantly be aware of the needs of his patients. Dr. Milton Rosen-

baum has stated that physician rejection (direct or indirect) of the patient may account for some suicides. The patient generally "cries for help" before the suicidal act but that cry is not always heard or recognized. We need to develop a general psychiatric consensus on the subject of suicide and to let it be known that new therapeutic approaches require the discarding of harmful and outdated practices in the rigid physical and emotional control of psychiatric patients. Such changes may lead to an increased suicidal rate in the mental hospitals, but one cannot and should not expect the suicidal death rate in a mental hospital to be any less than that of the general community population.

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Clinical Center Study of Hodgkin's Disease and Lymphosarcoma

The cooperation of physicians is requested in a study of Hodgkin's disease and lymphosarcoma being conducted by the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Particularly desired are patients who have had no previous treatment or minimal prior treatment. All clinical stages of biopsy-proven diseases are acceptable. The major purpose of the study is to determine the curative potential of intensive radiotherapy in localized cases and to evaluate combination chemotherapy and X-irradiation in patients with generalized involvement.

Physicians interested in having their patients considered for the study may phone or white to:

Paul P. Carborne, M.D.
The Clinical Center
National Institutes of Health
Building 10—Room 12-N-228
Bethesda, Maryland 20014
Telephone: 656-4000, Ext. 64251
(Area code 301)

Diagnostic Laboratory Medicine . . . .

The Importance of L Forms of Bacteria in Clinical Infections

The 1935 Klieneberger, working with plate cultures of Streptobacillus moniliformis, isolated colonies of a polymorphous gram negative bacterium which occurred as both rods and filaments. These colonies were then propagated by subculture in a pure stable form which retained these characteristics. The colony morphology, as well as the finer structure, resembled the mycoplasmas. Since it was felt to be a new species, it was designated L_1 in honor of the Lister Institute, London, England. The similarity of this new species (L_1) to mycoplasma subsequently has caused great controversy in the literature concerning the exact nature of these organisms. Even today, the question as to whether or not these organisms are mycoplasma has not been completely resolved.

The L form organisms for the many years since their original description have been regarded as a laboratory phenomenon. Such can be produced from *any* strain of bacteria which are grown under adverse conditions. The most common way to produce the L form organisms is to use a culture medium which has been enriched with ascitic fluid or serum, and to which has been added varying concentrations of penicillin.

The resultant L forms produced in this manner differ from their parent bacteria in that no cell wall is present, hence all L variants appear to be gram negative. This lack of a cell wall probably accounts for the pleomorphism and the resistance to penicillin which these organisms exhibit, as well as their failure to provoke an antibody response.

It has been only in recent years that L forms have been found in nature and isolated from patients with clinical infections. However, their pathogenecity has not been proved conclusively. The isolation of L form organisms from patients with infections suggests many exciting possibilities as to their role in some acute, recurring or chronic infections. Bacteria of this type have been recovered from patients with scarlet fever, subacute bacterial endocarditis, pyelonephritis and furunculosis following antibiotic therapy. This would suggest that the organisms causing these disorders might assume L forms during treatment and lie dormant for a period. Then following withdrawal of antibiotics, they may revert to the parent bacterial form causing a recrudescence of the initial disorder.

Godzeski et al. reported cases of patients, with recurring boils and other staphylococcal problems, from whom the L phase organisms recovered were transformed into the staphylococcal form on repeated subcultures. They suggested that the host may be unable to cope with L phase organisms due to incomplete host resistance either acquired or inherited. If these organisms were sequestered or were located in tissues not readily accessible to therapy, chronic disease could result.

The association of bacterial L forms with aphthous lesions was reported by Stanley et al. They recovered L forms by culture of ulcers in 14 of 15 patients with this disorder. They believed the causative parent organisms to be an alpha hemolytic streptococcus which had undergone L form transformation. This suggested that the L form of the organism most likely is the dormant agent in recurrent aphthous ulcerations. Systemic antibiotics had no effect on these L organisms in the oral lesions.

Mattman and Mattman reported two patients in whom no growth appeared in standard blood culture media. However, L forms were isolated in both cases after repeated subculture in special media. These L forms were shown to revert to Strepto-

coccus faecalis. In a study of 301 blood cultures in France, L growth was found in 14% and classical bacterial growth found in 6%. It must also be noted that a large variety of L forms has been identified in cultures of blood as well as in cultures from practically every organ of man.

Barile et al. have devised a simplified artificial medium composed of reagents readily available in most diagnostic laboratories. This medium can be used to facilitate, and should encourage, the search for both PPLO and L form organisms as a routine bacteriological procedure.

The increasing evidence as *indicated* above that a relationship exists between some L forms of bacteria and certain infections of humans cannot and should not be ignored. The availability of a simplified culture medium materially aids in the search for the offending organism. This is especially true when there is a history of recurring or chronic infection in the face of antibiotic treatment.

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The Importance of Drug Advertising

The importance of the advertising industry in the economic development of our country is well-recognized and, more specifically, in the development of use of new and better drugs. Practicing physicians receive a substantial part of their education concerning drugs through the medium of prescription drug advertising. This indeed, is basic and underlies the Federal law which places responsibility on the advertising industry to present factual and undistorted information to the physician. Furthermore, the prescription drug advertising provision of the law actually is a recognition of the importance of such advertising in the entire area of medical care in the United States.—Joseph F. Sadusk, Jr., M.D., in *Current Therapeutic Research* (7:332), May 1965.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Health Legislation Passed by the 1966 General Assembly

Public health in Virginia stands to benefit considerably from legislation enacted at the recent session of the General Assembly.

Among acts passed by the legislators were several affecting state participation in the federal government's health insurance program; rabies control; records kept by electronic computer; admission of new health districts under State Health Department supervision; nursing scholarships; and studies of alcoholism.

The Assembly approved appropriations of $57,159,540 for the Department, compared with $45,441,339 for the biennium now being concluded. This sum includes the cost of operating four state tuberculosis hospitals. The figures include all monies from state, local and federal sources.

The lawmakers amended the Code of Virginia to allow the State Health Commissioner to submit, with State Board of Health approval, a State plan for administration of Title XIX of the medicare law, which extends the current Kerr-Mills program. They added a section to provide for home health care services under the federal law after July 1.

The Assembly also approved a bill to amend the hospital survey and construction law to include mental health centers and facilities for the mentally retarded. This step was taken to provide a legal basis for the Virginia Advisory Council to allocate federal funds for construction of such facilities.

The rabies control law amendment requires evidence of rabies inoculation by a currently licensed veterinarian before a dog can be licensed. Although inoculation previously was required before licensing, in a third of the state's counties it did not have to be done by a licensed veterinarian. The amendment is another in a series of steps to control the disease.

The state went a little deeper into the age of electronics when the General Assembly passed an act establishing the legality of certificates from records kept by electronic means in the department's Bureau of Vital Records and Health Statistics. The previous session of the Assembly provided funds for the installation of a computer.

An effort to alleviate the State's shortage of trained nurses was the increase from $200 to $300 for each of the 100 nursing scholarships awarded annually.

The State Health Department was voted $1 million to build at the Medical College of Virginia a center for the treatment and rehabilitation of alcoholics. The department's Division of Alcohol Studies and Rehabilitation has been investigating various aspects of the subject under a law passed by the 1948 General Assembly.

Legislation was passed at the recent session to require reporting by medical and public health personnel of injuries to children that indicate abuse or neglect, and investigation by law enforcement officials.

Another act provided for mandatory examination of infants for the detection of phenylketonuria. The State has had a PKU testing program on a voluntary basis since October 1962.

The Assembly cleared the way and appropriated sums sufficient for the cities of Norfolk, Richmond, and other independent cities and counties to affiliate with the State Health Department.

Correspondence . . . .

Highway Safety

To the Editor:

Having recently read and listened to the newscasts of the recent holocaust on our nation's roads I feel it necessary that someone bring up the responsibility for the cause for these deaths.

Due to failure of the medical profession and the insurance companies to get together in the past it has been necessary for the Federal government to step into the field of medicine to ensure that adequate medical care will be available for all our older citizens.

Unless the insurance companies who pay out the cost of highway deaths and the physicians who spend their time treating the injured get together and assume their responsibility the Federal government will again have to step in to prevent what is essentially a basic civic responsibility. There has been a lot of talk by various bodies on the effect of alcohol and fast driving which has missed the essential point.

We cannot legislate carelessness and accidents off the roads, in fact for the next few years until completely automated travel is available they will continue to increase. However death and injury on the road can be almost totally *prevented* and from the epidemiological point of view this is a responsibility of the medical profession.

At no time on the highway will you get the momentum and destructive forces resulting from highspeed auto racing and yet very few deaths occur in the many millions of miles raced each year. Those deaths which do occur are usually the result of neglect of one of the basic safety rules laid down by the various organizations.

The American Society of Automotive medicine has also explored and written many papers on the subject but apparently none of the legislators elected by the public are willing at the present time to go on record as favoring rigid safety rules.

Simply—

(1) a roll over bar
(2) a fore and aft crash bar
(3) lateral strengthening of the doors
(4) lap and shoulder harness
(5) rigid enforcement of the above and their use (rather than running around trying to enforce speed limits within 2 miles a hour of limits which are too low and contribute to accidents) will result in the savings of 95% of deaths and injuries on the highway today.

I should favor a special committee being drawn up by the State medical society and immediate action before we have the matter forcibly taken out of our hands as has happened in the past.

Christopher M. G. Buttery, M.D.

The Medical Society of Virginia . . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. Alexander McCausland, President, at 1:00 p.m. on Sunday, April 24, 1966, at Society Headquarters. Attending were: Dr. McCausland, Dr. K. K. Wallace, Dr. McLemore Birdsong, Dr. Hunter H. McGuire, Jr., Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. W. Callier Salley, Dr. F. Ashton Carmines, Dr. Mallory S. Andrews, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. Nash Thompson, Dr. Dennis P. McCarty, and Dr. Michael A. Puzak. Also attending were: Dr. William Grossmann, 3rd, Vice-President; Dr. Thomas W. Edward, Vice Speaker of the House; Dr. Vincent W. Archer, Delegate to the American Medical Association; and Mr. William Miller, an attorney for the Society.

Dr. McCausland, calling attention to the Congressional luncheon on the 26th, reviewed a proposed time schedule for that day. It was agreed that there would be no speeches as such, but that each member of Virginia's Congressional delegation would be invited to say a few words.

The President then reported on the series of events leading to the appointment of the Travelers Insurance Company as carrier for part B of Medicare. Travelers had been appointed to replace The Life Insurance Company of Virginia, which had decided to withdraw after taking into consideration the many factors involved. It was learned that while the Department of HEW was willing to go along with a commercial carrier, it could not see its way clear to appoint Aetna—one of the Society's choices. The reason was that it was necessary to achieve balance over the country where the various carriers are concerned. It was brought out that The Medical Society of Virginia certainly had no objection to Travelers, and that the vote which had determined the Society's first two choices had been extremely close. The feeling was expressed that Travelers would be most cooperative and would work with the Society's Medicare Committee in every possible manner.

A question was raised as to why The Life Insurance Company of Virginia found it necessary to withdraw as fiscal intermediary and it was explained that three principal factors seemingly were the cause. The first concerned a possible operating loss—particularly when depreciation and current operating procedures are taken into consideration. The second factor had to do with possible disruption of its current business because of demands and requirements set forth by HEW, and the third was the fear that present good relations the company enjoys with physicians might be jeopardized. The possibility of having to set up individual profiles was certainly not regarded with enthusiasm.

Further discussion brought out the fact that Travelers will operate its Medicare program from four regional offices—located in Richmond, Norfolk, Roanoke and Harrisonburg.

Dr. Salley wanted Council to know that The Virginia Medical Service Association had not contacted Mr. Arthur Hess of HEW concerning Part B of Medicare, and had not discussed supplementary contracts or the usual and customary fee approach. He went on to say that the Association was not releasing information on fee schedules to just anyone.

The situation in northern Virginia was discussed at some length, and it was learned that the Washington Hospital Council had sought approval by the Arlington, Alexandria and Fairfax Medical Societies of the District Blue Shield Plan as fiscal intermediary. While there was some question at first as to whether the District Blue Shield area would include northern Virginia, it seems fairly certain now that it will. Dr. Puzak indicated that it was doubtful that the D. C. Plan could survive without the suburban areas.

Council was then advised of the death of Dr. Walter B. Martin. Dr. Martin was a Past-President of both the American Medical Association and The Medical Society of Virginia. The President appointed Dr. Wallace, Dr. Andrews and Dr. Salley to officially represent the Society at the funeral, and directed the Secretary to send a telegram of sympathy to the family.

The Heart, Cancer, Stroke program then came in for its share of discussion. Dr. McCausland reviewed the Committee structure, starting with the Governor's Advisory Committee. This particular Committee is headed by Dr. Shanholtz and the Society is represented by Dr. W. J. Hagood. This is the Committee which will, for the most part, guide the program in Virginia.

The President then discussed the makeup of the Society's own Heart, Cancer, Stroke Committee headed by Dr. Frank Alton Wade. The Committee is composed of members from all Congressional Dis-

tricts, and has already met with the Executive Committee of the Governor's Advisory Committee.

Dr. McCausland went on to say that some recommendations have been submitted to The Medical Society of Virginia for approval, and requested Dr. Wade to read a special report from his Committee (report attached).

The report stated that an attempt will be made to determine the needs of physicians throughout the State regarding opportunities for improvements in education, training, research, etc., where heart disease, cancer and stroke patients are concerned. It spelled out the need of a capable Executive Director to work with the Governor's Committee and stated that this must be considered the first phase of the program. The second phase would be the conducting of feasibility studies and pilot projects—for the express purpose of determining specific local needs. The third phase of the program would be the actual establishment of local projects to meet these local needs. Such projects would be financed under subgrants of the overall regional program.

Dr. Wade's report emphasized that the Committee had been assured that the doctor-patient relationship would remain undisturbed, that there will be no federal interference with the Virginia Regional Committee in the direction of its own program, that the program is purely voluntary as far as local communities are concerned and that the cooperation of The Medical Society of Virginia is necessary and vital to the implementation of the program.

Dr. Hagood commented on the program, and stated that he had accepted appointment to the Governor's Advisory Committee with some reservations. He has now reached the decision, however, that physician's should do everything within their power to bring as much good as they possibly can from the program. It was his feeling that the real value of the program lay in education—a need which has existed for a long time. He confirmed the fact that a really efficient Executive Director is needed, and that the program's ultimate success will depend on its ability to effectively communicate with physicians in Virginia.

A question was raised as to whether the Virginia program would have statewide application, or whether the northern area would come under the District of Columbia Plan. Dr. Wade expressed the feeling that the Virginia program would, for all practical purposes, be statewide. Dr. Shanholtz agreed, and stated that the final decision would probably be reached as the result of studies to determine needs existing in that particular area. He went on to state that Heart, Cancer, Stroke programs are tailored to the needs of localities, and might well vary from one place to another.

There was some speculation as to what part The Medical Society of Virginia will actually play in the development of the program. Dr. Shanholtz indicated that, in his opinion, the Society would have a great deal to say about what actually goes on. He stated that it was all-important for the program to have the approval and cooperation of Society members if it is to achieve any degree of success.

Further discussion brought out the fact that the Heart, Cancer, Stroke program does have certain built-in safeguards. For example, the National Advisory Committee is composed of non-Federal people —just as the Governor's Advisory Committee has some physicians in private practice and some of the State's most successful businessmen. Another safeguard lies in the fact that the localities have the right to accept or reject proposed projects. In this connection, Dr. Wade expressed the feeling that local societies have a definite responsibility and their job will be a big and important one.

Some fear was expressed that the program might soon encroach on the private practice of medicine by concerning itself with patient care per se. It was stressed that patient care is not presently an objective of the program and that neither the state nor a locality is obligated to move in any direction to which it might object. It was mentioned, however, that the report of the President's Commission on Heart, Cancer and Stroke would seem to suggest that patient care is a definite possibility.

Dr. Puzak then moved that the report of the Society's Committee on Heart, Cancer, Stroke be adopted as submitted by Dr. Wade. The motion was seconded. During the discussion, it was agreed that adoption would in effect endorse plans of the Governor's Advisory Committee to request a grant for planning purposes.

Dr. Archer expressed the thought that perhaps Council should make it clear that the Society did not feel itself obligated to support the program financially. Dr. Wallace offered an amendment which would deny any obligation on the part of the Society to partipicate financially. The amendment was seconded and adopted.

Dr. Puzak's main motion, as amended, was then adopted.

Dr. McCausland next requested common consent of Council to consider an additional item. There was no objection.

Dr. Thompson stated that he had received a letter from the President of the Woman's Auxiliary to The

Medical Society of Virginia requesting approval for a special program for students during the Annual Meeting at Williamsburg. It was hoped that the program would attract those young people interested in learning more about careers in the health field. The program would feature a party atmosphere, and one of the highlights would quite likely be a film on health careers.

Dr. Thompson then moved that the proposed program be approved. The motion was seconded.

Council was advised that the Virginia Council on Health and Mental Care is very active in the field of health careers, and any such program during the Annual Meeting should probably be coordinated with Mrs. Cynthia Warren. It was generally agreed that this would be a good move.

There was some discussion concerning what facilities might be available in Williamsburg for such a program, and it was learned that this could pose a problem. It was agreed, however, that every effort would be made to find suitable space.

Following a suggestion that the Auxiliary be advised that the Society cannot guarantee space or funds, *the motion for approval was adopted.*

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:
ALEXANDER MCCAUSLAND, M.D.
President

Report of Committee on Heart Disease, Cancer and Stroke

The Committee on Heart Disease, Cancer and Stroke of The Medical Society of Virginia met in Richmond on April 12, 1966, with the Executive Committee of the Governor's Committee on Heart Disease, Cancer and Stroke. The Executive Committee consisted of Dr. Mack Shanholtz, Dr. Kenneth Crispell, Dr. Kinloch Nelson and Dr. William Hagood, Jr. Also present were Dr. Charles Crockett and Dr. Charles Caravati, Directors of Continuing Education at the University of Virginia and the Medical College of Virginia, respectively.

For our enlightenment the minutes of their January 24, 1966, meeting were read and the historical development of the program together with further orientation and clarification concerning the intent and purposes of the program were presented.

The concept of the program nationally will be based upon the establishment of medical regions. The Governor's Committee has considered the entire State of Virginia as one region and will make application in the very near future with this geographical region in mind. An attempt will be made to determine the multiple and varied needs of physicians throughout the State regarding opportunities for improvements in education, training, demonstrations, research and equipment as pertains to heart disease, cancer and stroke patients under their care. To determine these needs and augment them into an overall regional program will require the concerted efforts of this committee and others in the health service field. An Executive Director capable of assisting the Governor's Committee in these functions is being sought. He will by necessity be working intimately with local medical society and academy committees, local hospital staffs and other interested people, assisting them in determining their needs and making them known to the regional program.

The major part of planning by the committee has been completed and application for a grant to effect these plans will be submitted shortly. Once the Executive Director has been chosen, the second phase of the program, namely conducting feasibility studies and pilot projects, to determine specific local needs will go into effect. Twenty-five million dollars has been allocated by Congress to establish the planning phase in the United States. Larger appropriations are anticipated in future years. The third phase of the program, namely the establishment of local projects to meet local needs under sub-grants of the overall plan of the regional program, completes the design of the program.

The Executive Committee assured us of several features of the program: (1) The doctor-patient relationship would remain undisturbed. (2) The Virginia regional committee will conduct without Federal interference or direction its own program designed to meet the needs solely in Virginia medicine as determined in the planning and pilot study stages. (3) The program is purely a voluntary one participated in by local medical communities and designed to meet their local needs. (4) The cooperation of The Medical Society of Virginia is necessary and respectfully requested in the implementation of this program.

The Heart Disease, Cancer and Stroke Committee of The Medical Society of Virginia met immediately after the joint meeting and voted unanimously to recommend endorsement of the program and to participate wholeheartedly in its endeavors.

FRANK ALTON WADE, M.D., *Chairman*

Woman's Auxiliary....

President ..... Mrs. George W. Kelly, Jr., Pulaski
President-Elect ..... Mrs. Ralph Landes, Danville
First Vice-President Mrs. William Reardon, Falls Church
Second Vice-President ..... Mrs. J. R. McGriff, Arlington
Third Vice-President ..... Mrs. Walter Eskridge, Parksley
Recording Secretary ..... Mrs. Harold Goodman, Richmond
Corresponding Secretary Mrs. A. B. Gravatt, Kilmarnock
Treasurer ..... Mrs. Robert Mitchell, Falls Church
Parliamentarian ..... Mrs. T. N. Hunnicutt, Newport News
Historian ..... Mrs. W. Fred Delp, Roanoke
Publicity ..... Mrs. Daniel Anderson, Norfolk

Chicago Convention Topics

Open forum discussions for state officers and constitutional amendments on Auxiliary structure will be features of the 43rd Annual Convention of the Woman's Auxiliary to the American Medical Association. Headquarters for the June 26-30 meeting will be the Drake Hotel, Chicago. Registration opens at 11 a.m., June 26, followed by a 6-8 p.m. reception honoring the Auxiliary president and president-elect, Mrs. Richard A. Sutter, St. Louis, Mo., and Mrs. Asher Yaguda, Newark, N.J.

The convention formally opens at 9 a.m., June 27. Reports of the president, president-elect and Board of Directors and nominations for the 1967 nominating committee are on the morning agenda. That afternoon, leaders of national women's volunteer organizations and wives of AMA international guests will be honored at a Guest Day luncheon. Featured speaker will be Mr. Richard Cornuelle, executive vice president, National Association of Manufacturers, and author of *Reclaiming the American Dream.*

State presidents from the Eastern and North Central regions will report on local activities at the afternoon session.

A "Nite on the Town" has been planned for Monday evening. The tour consists of: dinner at the Ivanhoe Restaurant; banjo revue at the Red Garter; cocktails and 'browsing' through Old Town, and the Ice Revue at the Conrad Hilton Hotel. Advance registration may be sent to: American Sightseeing, WA/AMA Tour, 500 S. Michigan Ave., Chicago, Ill. 60605. The $17.50 fee will be collected at the Convention Information Desk.

Southern and Western state presidents will report at the June 28 session, followed by the presentation of the Annual Health Mobilization Award. Arnold Dodge, acting chief, HEW's Division of Health Mobilization, will make the presentation.

James Z. Appel, M.D., AMA president, will speak at the Tuesday luncheon honoring national Auxiliary past presidents and AMA officers, trustees and their wives. Mrs. Sutter will present the Auxiliary's contribution to AMA-ERF, and Raymond M. McKeown, M.D., foundation president, will present awards to state and county auxiliaries which made the largest contributions for their membership categories.

A new convention program is scheduled for Tuesday afternoon—"Open Forum." This will be a two-way discussion between state presidents and presidents-elect, and national officers and chairmen. Suggested questions and discussion topics should be sent to national headquarters immediately. Delegates are invited but not obligated to attend this session.

Several important amendments concerning Auxiliary structure will be presented at the general session, June 29. Officers and directors will be elected and Mrs. Yaguda will be installed as president. The new Board of Directors and national committee chairmen will meet that afternoon.

The Post-Convention Conference for state officers will be held June 30. "Health of Children and Youth of School Age," and a discussion of package programs on current health problems will be featured. Ernest B. Howard, M.D., AMA assistant executive vice president, will give an AMA convention round-up.

It's Program Planning Time Down South

The Program Committee has one of the most vital jobs in the County Auxiliary. It is the beacon to attract and interest new members. It is the force to keep old members from becoming disinterested and inactive. A strong, all-out effort should be made by each auxiliary to make every one of their programs stimulating and interesting as well as educational and thought provoking. Each Auxiliary should work very closely with the State Auxiliary, the AMA Auxiliary and the State Medical Society. Follow their guide lines, help them achieve their goals. The State and National organizations cannot possibly accomplish their aims and goals without the support of each County Auxiliary. Know the goals of these groups and make your programs emphasize these goals.

Especially at this time, the doctor image needs improvement. Working with other community groups for a common cause can be most advantageous. Show people you are interested. Why not invite presidents or representatives from organizations such as the Woman's Clubs to attend one of your meetings.

A few hints on programming are 1. have programs well publicized so members are eager to attend; 2. start on time as well as close on time; 3. plan programs well in advance with substitutes available if the need arises; 4. don't lose the audience before the program, keep the business short, to the point and avoiding long, meaningless discussions; 5. a friendly atmosphere creates a receptive background for the speaker.

Did you know that there are many excellent films available free of charge from both the State and AMA Auxiliaries? What better way to illustrate work done in various medical fields. Literature relating to the film is also available for distribution.

How many Auxiliaries have planned skits using their own members to illustrate a committee's project. This can be most effective as everyone is interested in seeing their own members perform.

Your AMA Auxiliary also has an excellent speakers bureau. Don't be half-hearted in looking for good programs or take "anything" just to have the time filled. Both your State and National Program Chairmen have material laden with ideas and suggestions. Don't let it go to waste!

Mrs. William J. Reardon,
Chairman, Programs

When Disaster Strikes

Preparedness is the keynote to disaster whether it be personal or of a widespread community nature. It is essential for each Auxiliary to support existing projects in the community as well as to search out needs and initiate new measures in disaster preparedness.

Your channels of activity will vary in every community as the need is varied by geography, industrialization, militarization, density of population and many other factors. The following list of activities are general ones that have been proven worthy of your support even if you have other special disaster projects designed especially for your locality:

1. Hospital Disaster Drills—registration of personnel, clerical work, transportation, patient care, publicity, information center, etc.
2. The Medical Self-Help Program—stressing the importance of 100% tetanus immunization. Organization and/or teaching of Self-Help in the High Schools.
3. Conducting programs on Civil Defense. Contact and establish rapport with your local Civil Defense leaders.
4. Informing the general public about the importance of medical identification cards and their availability through the AMA.
5. The Block Mother Plan.

There are films available on which to base programs on Medical Emergencies. You may be able to present these programs to other community groups in your area.

Be active in at least one phase of Disaster

Preparedness and show your community that you care.

Mrs. K. K. Wallace, Jr., *Chairman*
Disaster Preparedness

International Health Activities

The Motto, *"Better Health-Better World"* . . . can become wonderfully significant through International Health Activities. For, IHA is the auxiliary's worldwide program of *Service.*

Since the inception of this project four years ago, the response has been tremendous! Auxiliary members collect and send, through agency-outlets, medicines and supplies for overseas shipment to dedicated physicians throughout the free world.

Requests pour into agency-outlets. Missionary physicians are asking our help in their service to mankind. We gather, as it were, baskets full of "left overs" to be sent wherever the need is greatest. Some needs and outlets listed by the Department of International Health of AMA include:

1. DRUG SAMPLES
   World Medical Relief, Inc.
   11745 Twelfth Street
   Detroit, Michigan 48206

   Legal Aspects Regarding Drug Samples. All Drugs Must Be In Original, Sealed Package.

   (This applies to the bottles and the many little containers in which the tablets or capsules are originally packaged.)

   The term "Drug Samples" refers to all medications—*except* narcotics—which we do not collect.

   Storage of Drugs: It is imperative that the storage of drugs be under the supervision of someone who is licensed to handle drugs. (Physician's home or office; hospital; pharmacist; drug store, etc.)

   Seal Containers: Every carton containing drugs (box, paper bag, etc.) should be *sealed with tape. Name* of *donor* and *auxiliary* should be on the inside and on the outside of every package.

   When transporting collected drugs, either by private car, or by carrier, all containers must be sealed with tape.

   Teen-agers should NOT be enlisted to handle drugs.

2. MEDICAL AND SURGICAL SUPPLIES, Instruments, and other equipment in good condition.

   Catholic Medical Mission Board
   Father Anthony LaBau, S.J., 10 W. 17th Street, New York 11, N. Y.

   Christian Medical Society
   Mr. J. Raymond Knighton, 7212 Circle Avenue, Forest Park, Ill.

   World Medical Relief, Inc. (Address above)

   Direct Relief Foundation
   Warehouse: 702 Milpas Street, Santa Barbara, California

3. BANDAGES

   Leprosy Relief Fund
   Mr. Adam W. Aitken, P. O. Box 1283, Bangkok, Thailand

4. USED MEDICAL TEXTBOOKS

   (Not more than 4 years old)

   Catholic Medical Mission Board (Address above)

   Christian Medical Council for Overseas Work
   Frederick G. Scovel, M.D., 475 Riverside Dr., New York 27, N.Y.

   Christian Medical Society
   (Address above)

   Darien Book Aid Plan
   1926 Post Road, Darien, Conn.

5. USED MEDICAL JOURNALS

Doctor-to-Doctor Program (Write for name of a foreign doctor)

World Medical Association
Dr. Ada Cree Reid, 10 Columbus Circle, New York 19, N. Y.

All shipments must be *prepaid BY SENDER.*

In general, all contributions (except Drug Samples) are income tax deductible, if you have such appraised and save your receipt.

INTERNATIONAL HOSPITALITY . . . is important! Let's emphasize it! There are now 15,000 foreign physicians in the U. S. Every hospital and medical school has some foreign physicians . . . giving us endless possibilities for gracious hospitality; and opportunities for extending help, if needed.

Suggestions:

Invite wives of foreign physicians to auxiliary meetings, receptions, teas and, including husbands, to home entertainments. Perhaps . . . an International Luncheon and Fashion Show At Conventions: Honor them at some function; provide a Hospitality Center.

Honor, or present an AWARD to a physician (and/or wife) who has served without pay rendering medical care to needy in other lands.

PROJECT HOPE of the People to People Health Foundation (William B. Walsh, M.D., President) receives support from the Department of International Health, AMA. In addition to treating patients, as HOPE visits each country, Dr. Walsh stresses the need for training medical personnel, and the upgrading of medical education—in their OWN COUNTRY. For information about its Speaker's Bureau and Motion Pictures, write: Project HOPE, 1026-20th Street, N.W., Washington, D. C.

Your activities in any of these projects will indeed promote "Better Health" and help achieve a "Better World".

MRS. JOSEPH M. STRAUGHN, *Chairman*
International Health Activities

Side Effects—True or False?

The (FDA) adverse reaction program is off to a fair start and should get better, but concentration on side effects has put too much information into the hands of the laity and the uninformed, who tend to misinterpret. As a consequence, more side effects are being reported now that aren't really side effects, but rather the imaginations of those who got their hands on medical advertising on package inserts. It is the duty of the manufacturers to provide all the information to the physician about the drugs they make. All side effects should be clearly spelled out for him, but they should not be emphasized over and above the therapeutic activity.—Robert W. Ballard, M.D., in *Food Drug Cosmetic Law Journal* (21:31), January 1966.

Editorial . . . .

Health—Hope—Happiness

> "The health of nations is more important than the wealth of nations."—Will Durant

WHILE HEALTH is an element about which there has been much philosophizing and the importance of which has been both generally and pointedly recognized, actually there is a proneness upon the part of the human race as a whole to take it more or less as a matter of course and really to realize its importance not so much by reason of its being possessed as by reason of its being lost. When one comes to consider the estimate accorded its import by men of wisdom, in addition to the above expressed view of Will Durant, the declaration of England's great nineteenth century Prime Minister, Disraeli, seems particularly worthy of being cited. Disraeli observed that "The health of the people is really the foundation upon which all of their happiness and all of their powers as a state depend."

Although the inclination of people to take health for granted is apparent, it is nevertheless interesting to note that at the cessation of World War II's armed conflict in the year 1945, a poll was taken in America by an agency engaged in sampling public opinion. One of the questions on the questionnaire submitted by that agency was designed to obtain information as to what people had been most thankful for during the year then drawing to a close. It was generally assumed that the majority would have answered that they were most thankful for the war's having ended. This however, did not turn out to be the case; for of the number responding to the questionnaire, 52%, by far the greatest number expressing a unanimity of opinion, said they were most thankful for health, while only 18% of those responding gave the termination of the war as the condition for which they were most thankful.

Charles Caleb Coulton averred that, "There is this difference between the two temporal blessings—health and money—money is the most envied and the least enjoyed; health is the most enjoyed but the least envied; and the superiority of the latter is still more obvious when we reflect that the poorest man would not part with his health for money, but the richest man would gladly part with all of his money for health."

Health plays a major role in the standard of living in any nation. It not only makes a great difference to the individual, but, from a coldly materialistic or economic standpoint, to society in general. The debit

upon the ledger of productivity cannot be reckoned solely in terms of the loss of individuals singly, when for reasons of health they are incapacitated for engaging in their normal pursuits. Account has also to be taken of the time and energies that must be devoted by others to the care of those unable to care for themselves—to say nothing of the monetary expense involved. In general hospitals an average of two or more well people are required to take care of one sick person.

The maintenance of health or the prevention of disease was for long inadequately stressed in the medical school curricula of the United States. Some two decades ago, when there were but 72 medical schools in existence in America, at one third of these schools preventive medicine was not regarded as being of sufficient importance to warrant the assignment of any time to it in their regular curricula. Twenty-one schools allocated a limited time to it in connection with some other course, while importance adequate to warrant its being given separate and distinct identity was ascribed preventive medicine in only 22 medical schools in this nation.

There is no doubt that health and the prevention of disease and injury have of late come more nearly to receive the recognition due these entities. The existence of the many health agencies and edifices now in being is a manifestation of this recognition. Witness, for example, the magnificent group of buildings that house the National Institutes of Health at Bethesda, Maryland, a short distance north of Washington, D. C., and the National Library of Medicine on a contiguous compound. The creation, in 1946, of a World Health Organization is additionally pat to the point, as was the creation in the early 1950's of a national Department of Health Education and Welfare with a Director holding Presidential Cabinet Rank. To these milestones may be added the enactment last year of Public Law 89-97 ("Medicare") by the 89th Congress, and the ever increasing millions of federal as well as private endowment dollars that annually are being expended on health research projects.

Several interesting, and at the same time significant, realities bear upon the matter of health. (1) The natural trend throughout the normal life span of all living beings is toward health. Normally functioning physiological processes of the human animal tend toward a state of health. A manifestation of this truism is witnessed in recovery following acute illness and repair following trauma and tissue destruction. (2) A noteworthy and fortunate consideration relative to health is that its promotion and preservation may in so large a measure be favorable affected by natural and gratuitous factors or influences such as (a) fresh air, (b)

sunshine, (c) water (although not always entirely gratuitous)—water to drink, to maintain cleanliness of one's person, clothing and to meet numerous household needs—water to swim in, to skate or ski upon (in its solid or semisolid state)—water to fish out of, to sail upon or over, and simply to look at or into and to hear as the surging of waves on a seabeach, as waterfalls, as a babbling brook or as rain (but not as a dripping spigot) and (d) sleep. This is a condition that is entirely gratuitous. In fact, it cannot be indefinitely averted; it is absolutely essential to both physical and mental health.—Sleep that "knits up the raveled sleeve of care." (3) It is interesting, and at times astounding, to consider how people, the most intelligent of all animals, are more prone than any other creature to indulge in excesses and practices they well know to be detrimental to their health. The human being too, can certainly clutter up his immediate surroundings as quickly and as completely as any other animal, and his state of personal hygiene and presentability, if not closely attended, will, with amazing promptness, become loathsome. This is most disturbing to those who hold that people, whether deliberately or not, not only contribute something of themselves to their surroundings but, by a similar token, that they, in a comparable measure, take unto themselves something of their surroundings.

Health cannot necessarily be accurately defined as merely the absence of disease or infirmity, but rather there must be taken into account the individual's complete physical, mental and social well-being, and that there are varying degrees of health. Therefore, it is not merely a static state to be maintained, but is a state that lends itself to improvement. In fact, the philosophy of living more is on a par in importance with living longer. Thus does it follow that a healthy person not only stands a better chance of living longer, but no less better a chance of living more.

There is an Arab proverb to the effect that "he who has health has hope and he who has hope has everything." When this bit of philosophy is latched on to Samuel Johnson's asseveration that "hope is in itself a species of happiness and perhaps the chief happiness this world affords," a point is reached similar to that arrived at by Humpty Dumpty in Through the Looking-glass when, after reciting the last couplet of a long series comprising a poem without a title, he suddenly stopped: " 'Is that all?' " Alice timidly asked. " 'That's all,' " replied Humpty Dumpty. " 'Good-bye.' "

H. Lamont Pugh, M.D.

Lights, Camera, Action, and the Naked Truth

SEVERAL WEEKS AGO two happenings occurred almost simultaneously that threw new light on how medicine is reported in the year 1966. The first concerned an operation performed in Houston, Texas, by a surgeon of worldwide renown. The procedure, designed to remedy a failing heart, was new and admittedly of a pioneer nature. Despite this the operation was covered by television, cameras, and numerous newspapermen who received a "two-hour, off the record briefing" just prior to blast-off. The public and the patient's wife were informed of the operation by these newsmen.

The operation, we were told, was a success but the patient died five days later without regaining consciousness. The immediate cause of death was said to be a ruptured lung. All of this was learned through the lay press. The surgeon stated that the new heart pump connected to the left ventricle was "more satisfactory and sophisticated than the more primitive version," which had kept one patient alive four days in 1963 and another for 24 hours.

The May 6 issue of *Life* was more informative. A nine page color spread between black and white items concerning Jackie Kennedy and integration problems in New Rochelle, N. Y. showed one close-up of the pump and 12 photos of the surgeon. The pump was rather photogenic and this photograph gave the first clear idea as to what the mechanism looked like. The surgeon registered action, repose, hopefulness and inscrutability. His pictures were generally good although his face was partly obscured on Page 91 by the hand of the nurse who wiped sweat from his brow. As *Life* pointed out, "Only a man of . . . (his) . . . personal prestige and professional stature could have got away with it."

Doubtless much of value will result from these unsuccessful early cases and ultimately many lives may be saved. The question remains, however, if greater good might have resulted if the methods used by the medical pioneers of the past had been followed on this occasion. Pasteur announced his discoveries in French scientific magazines, Lister described the phenol-antisepsis treatment in British medical journals and Halsted's new operative technics appeared in American surgical publications. This permitted the physicians throughout the medical world to study and interpret the results and advise patients regarding the merits or drawbacks of recently proposed procedures. As it is, about all that we can tell a prospective patient with a failing heart at this time is that if he goes to Houston for surgery he may get on TV.

The second item, surprisingly, originated in Great Britain. In the

latter part of April, *Life* published a condensation of the diary of Lord Moran, Winston Churchill's physician, which will appear later this month as a Book-of-the-Month Club selection. Lord Moran, a frustrated writer, was dean of a London medical school when he became Churchill's full-time physician in 1940. Three years later he received a baronetcy because of his medical services to the untitled Prime Minister. He continued to care for Churchill until the latter's death in 1965.

Moran leaves little untold in his day-by-day account of the sometimes unorthodox therapy to which he subjected the Prime Minister while treating a seemingly endless succession of colds, bronchitis, pneumonias, coronary occlusions, strokes and injuries. The book is rather aptly captioned *Winston Churchill: The Struggle for Survival 1940/65*. Little will be found in this serialization to enhance the stature of Britain's war-time leader. Moran relates in detail his repeated efforts to persuade Churchill to resign as his physical and mental powers waned. The picture he presented of the Prime Minister as a doddering, senile, waspish old man does not accord with the popular image of Churchill on this side of the Atlantic and could well have been left unrecorded. It comes with exceedingly poor grace from his personal physician and one who should feel especially obligated to his illustrious patient. The color of Churchill's skin and his ample proportions appear to have fascinated Moran, for on one occasion he recorded "his big white belly was moving up and down" and again he related that "The P.M. is at a disadvantage in this kind of travel, (plane) since he never wears anything at night but a silk undershirt. On his hands and knees he cut a quaint figure with his big, bare, white bottom." Interesting no doubt, and written like a true author, but hardly the information a physician should feel at liberty to divulge about his only patient. All-in-all it doubtless will prove to be a readable book, with a wide sale, but it is also an outstanding example of poor taste.

H. J. W.

Current Currents

MEDICAL EXAMINERS: Governor Godwin has appointed Dr. Howard O. Mott, Arlington, to the Virginia Board of Medical Examiners. Dr. Mott replaces Dr. Harry C. Bates, who recently moved to Roanoke.

TAXES: According to "Nation's Business", 75 million U. S. taxpayers are this year paying more taxes than any other people ever paid in any other land!

PHYSICIAN-POPULATION RATIO: The physician-population ratio—the number of physicians divided into the total population—is often employed as a test of whether there is a shortage of physicians in the United States. Ratio, by itself, is an inadequate test. It does not, for example, recognize that an apparent shortage may in fact be a problem of distribution. It does not explain that physicians today are called on to do many more things than they once did. Nor does a recitation of ratios take into account the fact that today's physician can take care of more patients than the physician of 20 or 30 years ago because of the progress in medical science, better streets and highways, improved communications, and increased use of ancillary personnel.

Nevertheless, the question of ratio should be clarified because of persistent reports that the ratio has declined. The opposite is true. The number of physicians in the United States has been increasing faster than the general population for several years. This trend is expected to continue into the foreseeable future.

In 1960, there were 252,984 physicians in the United States, or one for every 737 persons. By the end of 1965, the physician population rose to 292,088, or one for every 681 persons, based on Census Bureau estimates of the civilian population.

The American Medical Association Council on Medical Education estimates that by 1975 the physician population will total at least 360,000. With a population forecast of 230,000,000, the physician-population ratio will thus improve by 1975 to one physician for every 638 persons.

A federal commission, known as the Bane Commission, created a stir in 1959 with a somewhat gloomy outlook on the supply of physicians and future prospects. The report indicated the United States was not producing physicians fast enough to keep up with the population increase and declared that a total of 330,000 physicians (osteopaths were included as physicians) would be needed by 1975 just to maintain the 1959 ratio of physicians to population. Although the Bane Commission report is still quoted occasionally, later information has shown that the supply of physicians has exceeded the commission's expectations and has more than kept pace with the increase in population.

MEDICAL EDUCATION-FACTS & FIGURES: (1) One of the primary reasons the AMA was founded in 1847 was to improve standards of medical education in the United States.

(2) The number of medical schools in the United States now totals 88, an increase of 11 since the end of World War II. By 1970, an additional 13 will be in operation, making a total of 101. Six more are virtually assured and another six or seven are possible by 1975. Approximately 25 others have been proposed.

(3) The number of medical school applicants, first-year enrollments, total enrollments and graduates has increased for several years. In the 1964-65 school year, applicants totaled 19,168, first-year enrollments 8,856, total enrollments 32,428 and graduates (1965) 7,409.

(4) The AMA Council on Medical Education anticipates that MD graduates will reach 8,000 in 1970 and climb to 9,000 by 1973 and 10,000 by 1975.

(5) The AMA frequently receives requests for advice from organizations, public and private, on how to proceed with plans for a new medical school. Counsel is available from AMA for every phase of the development.

(6) The American Medical Association and the Association of American Medical Colleges, through the Liaison Committee on Medical Education, serve as the recognized accrediting agencies for medical schools, accrediting on the basis of sound educational programs. Approval of internship programs is a function of the AMA exclusively. Residency programs are approved by the AMA working with various specialty boards.

(7) Physicians contributed approximately $5 million annually to the financial support of medical schools. Amount $1.3 million of total is contributed through the AMA Education and Research Foundation.

HEALTH vs. WELFARE: According to reports from Washington, recent hearings into the organization of the Department of Health, Education & Welfare were featured by a series of charges that HEW is discouraging states from naming their health departments to administer Title XIX of Medicare. One state health director suggested that total welfare department control is being advocated.

Representative Paul D. Rogers (D-Fla.) called on Undersecretary Wilbur Cohen, Medicare's principal architect, to answer these charges. Mr. Cohen was said to have admitted that an inequity in the law can cause a state to lose federal money if its welfare department enters into contract with the health department to handle Title XIX health services.

An HEW legal opinion as to whether this part of the law should be amended has been requested.

SEAT BELTS WERE MADE TO BE USED!

News . . . .

Calendar of Events

Symposium on Recreation for the Handicapped Child—Children's Rehabilitation Center—Charlottesville—June 22-24, 1966.

American Medical Association—Annual Convention—Chicago, Illinois—June 26-30, 1966.

7th Annual Symposium on Clinical Aspects of Renal Disease—Ischemic Heart Disease and Cardiac Diagnosis—Sponsored by Tidewater Heart Association & Council on Clinical Cardiology, American Heart Association—Cavalier Hotel, Virginia Beach—June 30-July 2, 1966.

Virginia Medical Service Association—Annual Meeting—Williamsburg—July 15, 1966.

Medical Aspects of Sports—Sponsored by the Medical Society of Virginia and Virginia High School League—Charlottesville—July 24, 1966.

Virginia Council on Health and Medical Care—Health Executives Workshop—Natural Bridge—August 17-19, 1966.

6th Annual Charlotte Postgraduate Seminar—Presbyterian Hospital Auditorium Charlotte, N. C.—September 21-22, 1966.

Pediatric Post-Graduate Conference on Pediatric Cardiology—University of Virginia School of Medicine—Charlottesville—October 6-8, 1966.

A Symposium on Arthritis—Sponsored by the Tidewater Chapter of the Arthritis Foundation—Lake Wright Motor Hotel, Norfolk—October 7-8, 1966.

American College of Surgeons—Annual Clinical Congress—San Francisco, California—October 10-14, 1966.

Program on Gastroenterology—University of Virginia School of Medicine—Charlottesville—October 28. (6 hours—6 guest professors)

The Medical Society of Virginia—Annual Meeting—Williamsburg—November 6-9, 1966.

Pulmonary Problems—University of Virginia School of Medicine—Charlottesville—November 18-19, 1966. (8 hours)

4th Annual Kidney Symposium—Sponsored by Virginia Kidney Foundation—Richmond Academy of Medicine, Richmond—November 11, 1966.

New Members.

The following new members were admitted into The Medical Society of Virginia during the month of April:

Aquiles Amparon, M.D., Lynchburg
John Thomas Baggerly, Jr., M.D. Danville
Wayne Douglas Boring, Jr., M.D., Norfolk
John Richard Deem, M.D., Burkeville
Asad Mihyddin Masri, M.D., Charlottesville
Leslie Schwartz, M.D., Charlottesville
Ted Carlton Staples, M.D., Ashland
Richard A. Thompson, M.D., Richmond
Andres J. Valdes, M.D., Danville

Dr. Harry Clark Bates

Has been named medical director of the Shenandoah Life Insurance Company and assumed his duties on May 9th. He succeeds Dr. David S. Garner who retired. Dr. Bates has been in private practice in Arlington since 1948.

Dr. and Mrs. Bates and their three children will make their home in Roanoke.

Virginia Society of Anesthesiologists.

At the recent annual meeting of this Society, Dr. C. D. Green, Charlottesville, was elected president; Dr. R. M. Jackson, Petersburg, vice president; Dr. G. H. M. Rector, Norfolk, secretary; and Dr. William B. Moncure, Richmond, treasurer.

The Northern Neck Medical Association

Honored the late Dr. Spottswood Stoddard at its meeting on May 26th. Dr. Richard L. Day, New York, was guest speaker. He spoke on planned parenthood with emphasis on newer methods of birth control.

Dr. Henry B. Mulholland,

Charlottesville, has been presented a Mastership by the American College of Physicians. This is the highest membership honor and was presented to three internists at the recent annual meeting of the College in New York City.

Dr. Warren W. Koontz

Has been appointed assistant professor of urology at the Medical College of Virginia, effective August 1st. He is the son of Dr. Warren Koontz of Lynchburg and a graduate in medicine from the University of Virginia. He is completing a residency in urology at the New York Cornell Medical Center.

Testimonial Dinner for Dr. Hoover.

Dr. Roy M. Hoover, former medical service director at the Woodrow Wilson Rehabilitation Center, was honored at a testimonial dinner in April. Although he officially retired last year, he has continued to serve as a consultant. He will break his official ties with the center in June but will continue to assist in the development of other rehabilitation programs. Beginning in the fall, Dr. Hoover will serve for six months on the mercy ship "Hope" in South America. An oil painting of Dr. Hoover was presented to him.

Dr. Handy Honored.

Dr. Frank E. Handy, Appalachia, was honored by the PTA with a "This is Your Life" program. He was scheduled to address the Association and was completely surprised by the program. His portrait was unveiled and it will hang in the Appalachia Elementary School.

Dr. Clyde G. O'Brien,

Appomattox, has been presented a bronze "Commendable Service Award" by Camp 71 Woodmen of the World. The plaque is the first to be given any Appomattox County citizen by the Woodmen.

Dr. E. D. Davis, Jr.,

Crozet, was recently presented with an aquarium by the Woman's Club of Crozet in appreciation of his 16 years of service to the Well Baby Clinic.

Dr. C. Harper Ward

Has closed his office in Montross and moved to Richmond where he will be a member of the staff of St. Mary's Hospital. He will be one of the four doctors maintaining continuous coverage in the emergency room. Dr. Ward has practiced in Westmoreland County for twenty years.

Dr. William R. Watkins,

South Boston, has been elected to the Board of Directors of the Virginia State Chamber of Commerce.

On Outstanding American List.

Dr. Linwood Webster Custalow, a graduate of the Medical College of Virginia in 1964, will be listed in the 1966 edition of the Outstanding Young Men of America. This is an annual publication honoring ten leading young men between 21 and 35 years of age. Dr. Custalow is the first Virginia Indian medical doctor and is of the Mattaponi Indian Reservation and is one of three American Indians who are doctors. The

award is given in recognition of outstanding ability, accomplishments, and service to the recipients' community, country and profession.

Dr. Albert V. Crosby,

Norfolk, has been presented the civic award of the Father Robert B. Kealey Council, Knights of Columbus. The award is made annually on the basis of participation in civic, political, educational and cultural affairs or in any field which has contributed to the betterment of the community.

Dr. John P. Utz,

Professor in the Department of Medicine at the Medical College of Virginia, has received an unrestricted grant for medical research from Wyeth Laboratories of Philadelphia.

General Practitioner.

Group of three general practitioners in Richmond are interested in obtaining an associate later to become a partner. Phone Richmond BE 2-1108. (*Adv.*)

Physician Wanted.

Internist to work twenty hours a week in Preventive Medicine in Richmond Industry. Write #85, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Physicians Wanted.

District Health Director A—Duties involve administration of State-local public health and medical assistance programs in a local health district serving less than 100,000 population. In-service training is provided, plus state-financed postgraduate study leading to Master Public Health Degree. Benefits include sick leave, vacation, group life insurance, malpractice insurance, travel reimbursement and retirement income. Qualifications—American citizen, eligibility to practice medicine in Virginia and two years of experience in general practice, public health or public-health-related practice (i.e., industry, military). Salary—$14,328 to $16,400 depending on qualifications.

District Health Director B—Duties involve administration of State-local public health and medical assistance programs in a local health district serving over 100,000 population. Benefits include sick leave, vacation, group life insurance, malpractice insurance, travel reimbursement and retirement income. Qualifications — American citizen, eligibility to practice medicine in Virginia and Master Public Health Degree. Salary—$15,675 to $19,600 depending on qualifications.

For further information write R. W. Jessee, M.D., Director, Division of Local Health Services, Virginia State Department of Health, 1314 East Grace Street, Richmond, Virginia 23219. (*Adv.*)

Urologist Wanted

For specialty group in California. Write #65, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Office for Rent.

Furnished physician's office for rent. Ward's Corner area, Norfolk, Virginia. If interested, write #95, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries . . . .

Dr. Walter Bramblette Martin,

A former president of The Medical Society of Virginia and of the American Medical Association, died at his home in Norfolk on April 23 after a short illness. He was seventy-eight years of age and received his medical degree from Johns Hopkins University in 1916. Dr. Martin began his practice in Norfolk in 1919 and retired from active practice in 1964.

Dr. Martin had represented The Medical Society of Virginia in the House of Delegates of the American Medical Association from 1936 to 1945; served as a member of the Council on Medical Service from 1945 to 1950; and a member of the board of trustees from 1946 and the executive committee from 1950 until he was named president-elect in 1953.

Dr. Martin had been an active member of The Medical Society of Virginia for forty-six years and served as president 1940-41. He was also a past president of the Norfolk County Medical Society, Norfolk Community Fund, the Norfolk Hospital Association and the Seaboard Medical Society.

In 1955, Dr. Martin was named First Citizen in Norfolk in recognition of "continuing, outstanding public and humanitarian service to our city, state and nation throughout the years."

The Norfolk Virginian-Pilot stated "Dr. Walter B. Martin was a medical statesman so weighted with a sense of responsibility to mankind that he could earn the affection of his patients at one end of the spectrum while wielding national influence at the other."

A son and a daughter survive him.

Dr. Joseph LeCenne DeCormis,

Accomac, died April 10th, having been in ill health for some time. He was eighty-four years of age and had practiced in Accomac for nearly sixty-years, having received his medical degree from the University of Maryland in 1903. Dr. DeCormis was a physician who saw the horse and buggy days give way to the space age and had served as stand-by physician during the launching of rockets from NASA's Wallops Island. He served for several terms as Accomac's first mayor, was county supervisor and a former chairman of the Board of Supervisors, and was a member of the School Electoral Board. Dr. DeCormis was always interested in farming and owned two farms which accounted for his interest in the Production Credit Association. He had been a member of The Medical Society of Virginia for sixty-one years.

A son and a daughter, Dr. Belle DeCormis Fears, survive him.

Dr. Montie Lewis Rea,

Charlottesville, died May 1st, at the age of eighty-nine. He received his medical degree from the University of Virginia in 1900 and began in practice in Charlottesville in 1905. For thirty years he served as surgeon for the Southern and the Chesapeake and Ohio railways. Dr. Rea was on the staff of the Martha Jefferson Hospital and during World War II he was the only surgeon there. Colleagues there recalled that he often contributed from his pocket to provide equipment that the hospital needed and was not able to purchase. Dr. Rea estimated that he had delivered more than 6000 babies in three generations.

Dr. Rea had been a member of The Medical Society of Virginia for sixty years.

Dr. David Luther Rawls,

Suffolk, died April 17th. He was eighty-six years of age and a graduate of the Medical College of Virginia in 1908. Dr. Rawls retired from practice in 1951 after 43 years

of practice in Suffolk. He was associated with the Lakeview Hospital and Clinic.

Dr. Rawls had been a member of The Medical Society of Virginia since 1908.

He is survived by his wife, a daughter and two sons.

Dr. Harry Wooding Pritchett,

Danville, died April 24th after a short illness. He was seventy-six years of age and graduated from Tulane University in 1919. Dr. Pritchett had practiced in Danville until his retirement this year. He was a member of The Medical Society of Virginia, having joined in 1933.

His wife, two sons and a daughter survive him.

Dr. Kenneth Rone Baldwin,

Newport News, died March 27th, at the age of thirty-eight. He was a graduate in medicine from Duke University in 1952 and had been in practice in Newport News for only a few years. Dr. Baldwin was a member of The Medical Society of Virginia, having joined in 1959.

His wife and three sons survive him.

Dr. Hawkins.

Clifton Forge, Alleghany County and the entire area suffered a staggering loss in the unexpected passing of Dr. Preston Hawkins early in the morning of Sunday, February 27th. The entire area is still stunned by the news.

Robert Preston Hawkins, Jr., was born in Clifton Forge, April 21, 1894. He graduated from Clifton Forge High School and then accepted a position in a local bank. He later took his college work at Washington and Lee University and graduated there in 1916. Following his graduation from the University he taught for a period in the Tennessee Military Institute. When World War I broke out he joined the United States Navy and spent the remainder of the period of the war in the service of his country. Following his service in the Navy he entered the Medical College of Virginia, where the degree of Doctor of Medicine was conferred on him in 1923.

Dr. Hawkins joined the staff of the C. & O. Hospital, Clifton Forge, immediately after his graduation and spent the next forty years there, first in general surgery and later in orthopedics. He attained a very high degree of efficiency in his chosen specialty and his advice and services were constantly sought throughout the area.

Dr. Hawkins held membership in a number of professional societies including the Alleghany Bath Medical Society. He became secretary of this group soon after joining it and held the position for 33 years. No one ever went to sleep when he read the "Minutes of the Last Meeting". He not only gave the essential information, his dry humor colored the whole procedure and all were sorry when he concluded. Dr. Hawkins was also the past president of this Society. He was also a member of the C. &. O. Surgeons Association and past president of that organization. He held membership in the Valley of Virginia Medical Society, the American Medical Association and the American College of Surgeons.

In addition to his association in professional societies, Dr. Hawkins was a member and past president of the Covington-Hot Springs Rotary Club and held membership in The Cliftondale Country Club and the Alleghany Country Club.

Dr. Hawkins also gave of his time and talents to other community activities. He was for years a member of the School Board of Clifton Forge and served as chairman for a number of terms. He was a director of the Mountain National Bank from the time it was organized and was at the time of his death a vice-president.

Dr. Hawkins gave valued service to his church, being a member of the Clifton Forge Presbyterian Church, where he was first chosen a deacon and later a ruling elder. Among his hobbies, we would place gardening high on the list. He spent much of his leisure time working around his attractive home on Palace Boulevard. He was also a skilled worker in wood and made quite a number of excellent reproductions for his home and his friends. Dr. Hawkins was a devoted husband and father, loved and respected by all who knew him. Anything we might say about this outstanding man would fall short of that which we feel. His modesty, his kindness, his keen sense of humor, which was always bringing forth some witty remark made him good company under all conditions. His unusual bed-side manner did much to restore confidence to his patients. If we were choosing another to take his place we would say "Send us another doctor just like Dr. Preston Hawkins."

William P. Gilmer, M.D.
I. T. Hornbarger, M.D.
Thomas Winn, M.D.

Dr. Nolting.

Margaret Nolting was born on November 1st, 1883, at the old Hobson-Nolting Mansion at Fifth and Main Streets, Richmond. Her father came to

this country from Bremen, Germany, at the tender age of thirteen as a sort of apprentice to his uncle in the tobacco business. His father was Major George Frederick William Nolting, a member of the Hanoverian Regiment which fought under the "Iron Duke" of Wellington at the Battle of Waterloo.

Dr. Nolting, the youngest of the twelve children of Emil and Susanne, was educated at John Powell's private school, the Richmond Female Seminary, and Westhampton College. In June, 1922, she became the first woman to graduate in Medicine in Virginia at the Medical College of Virginia. She served as an intern at the Sheltering Arms Hospital where she became associated with its Superintendent, Miss Courtney Irving, R.N., from which there developed a life-long friendship. She served as Medical Director of Sheltering Arms from 1924 till her resignation in 1949, at which time she was appointed Honorary Director for life.

Meanwhile, in 1923, she became associated in practice with Dr. James Henderson Smith and Dr. Carrington Williams at Fourth and Grace Streets; and in 1925, these three joined the Staff of the McGuire Clinic and St. Luke's Hospital where she was Secretary of this Staff until her retirement on April 1, 1963. During these active years, she also served as examining physician for the Protestant Episcopal Home.

Shortly after becoming affiliated with McGuire Clinic, she and Miss Courtney Irving found ways to serve their native State more fully: They built a summer cottage near the old Irving home at Howardsville, Virginia. For this they selected a beautiful spot high on a leveled hill above the enchanging valley below, where the Rockfish River takes its winding course. It faced west, toward the sunset, with the Blue Ridge Mountains in the background. A small paved patio was outside, and sitting there in the late evening, one got the impression that the sun had selected this very spot to show its most glorious colors and to cast the beauty of their reflection to the high heavens as it disappeared over the horizon.

During the long vacation each summer Dr. Nolting and Miss Irving operated a charity clinic in the little town of Howardsville, where they had a small office building, for the more unfortunate people of Albermarle and the adjoining counties. On holidays and Sundays, Richmond doctors accepted their invitations to pay them a visit and to help in the diagnosis and treatment of many patients. Those needing hospitalization were transported by friends to the Sheltering Arms in Richmond.

Feeling, as we do, that hers were truly Sheltering Arms, we consider it an honor to have been asked to write this memorial to a noble gentlewoman high in the esteem of her profession, her friends, and those to whom she gave so freely of her time and talents.

It is therefore resolved that a copy of this memorial be recorded in the minutes of this meeting and that copies be sent with the deepest sympathy of the Academy to the members of her family.

Webster P. Barnes, M.D.
Hunter H. McGuire, M.D.
John Bell Williams, M.D.

Dr. Crawford.

Dr. Francis Randolph Crawford left our group March 3, 1966. He was born at Kinstown, Virginia, on August 21, 1884. He was graduated from Washington and Lee University in 1906 and received his Medical Degree at Johns Hopkins University in 1911. He did internships and residencies at St. Francis Hospital and Clifton Springs Sanitorium in Pittsburgh, Pa. He did postgraduate work in Germany.

He was for a number of years a medical missionary to China as a surgeon and superintendent of a 200 bed hospital. While in China he met and married Miss Paxton Moffett.

Dr. Crawford returned to the United States in 1933 and settled in Farmville, Virginia. Here he practiced surgery for many years and then general practice until his retirement on January 1, 1965.

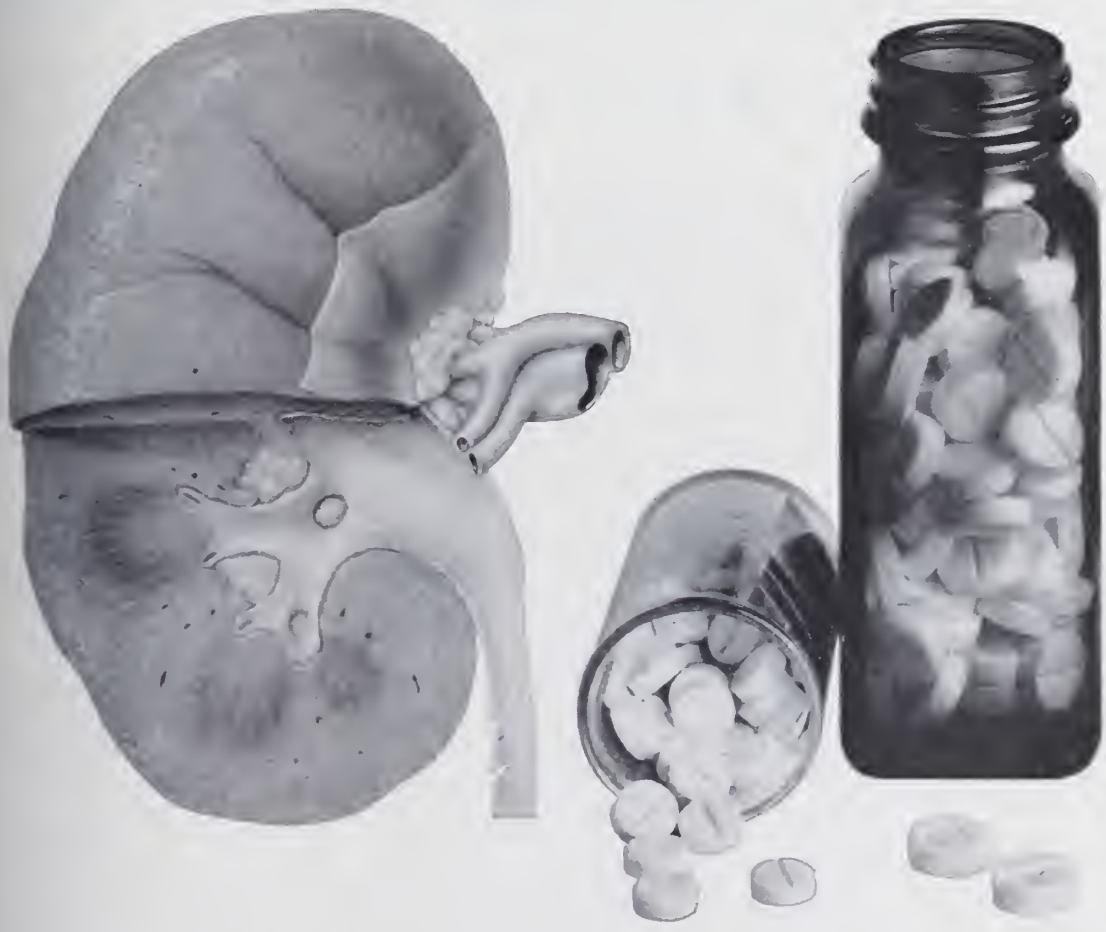
Dr. Crawford was an outstanding member of his church. He was highly respected as an orchardist. He took pride in his home and gardening.

Dr. Crawford gave unselfishly of himself in the practice of surgery and medicine in our community. He was highly respected by his colleagues who will miss his quiet guiding hand.

Be It Resolved that a copy of this resolution be made permanent in the minutes of the Medical Staff of the Southside Community Hospital, to Mrs. Paxton Moffett Crawford and to the Virginia Medical Monthly.

William P. Terry, M.D.
Hubert H. Holsinger, M.D.

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1. Barowsky, H.; Greene, L., and Paulo, D.: Cinegastroscopic Observations on the Effect of Anticholinergic and Related Drugs on Gastric and Pyloric Motor Activity, Amer. J. Dig. Dis. *10*:506-513 (June) 1965.

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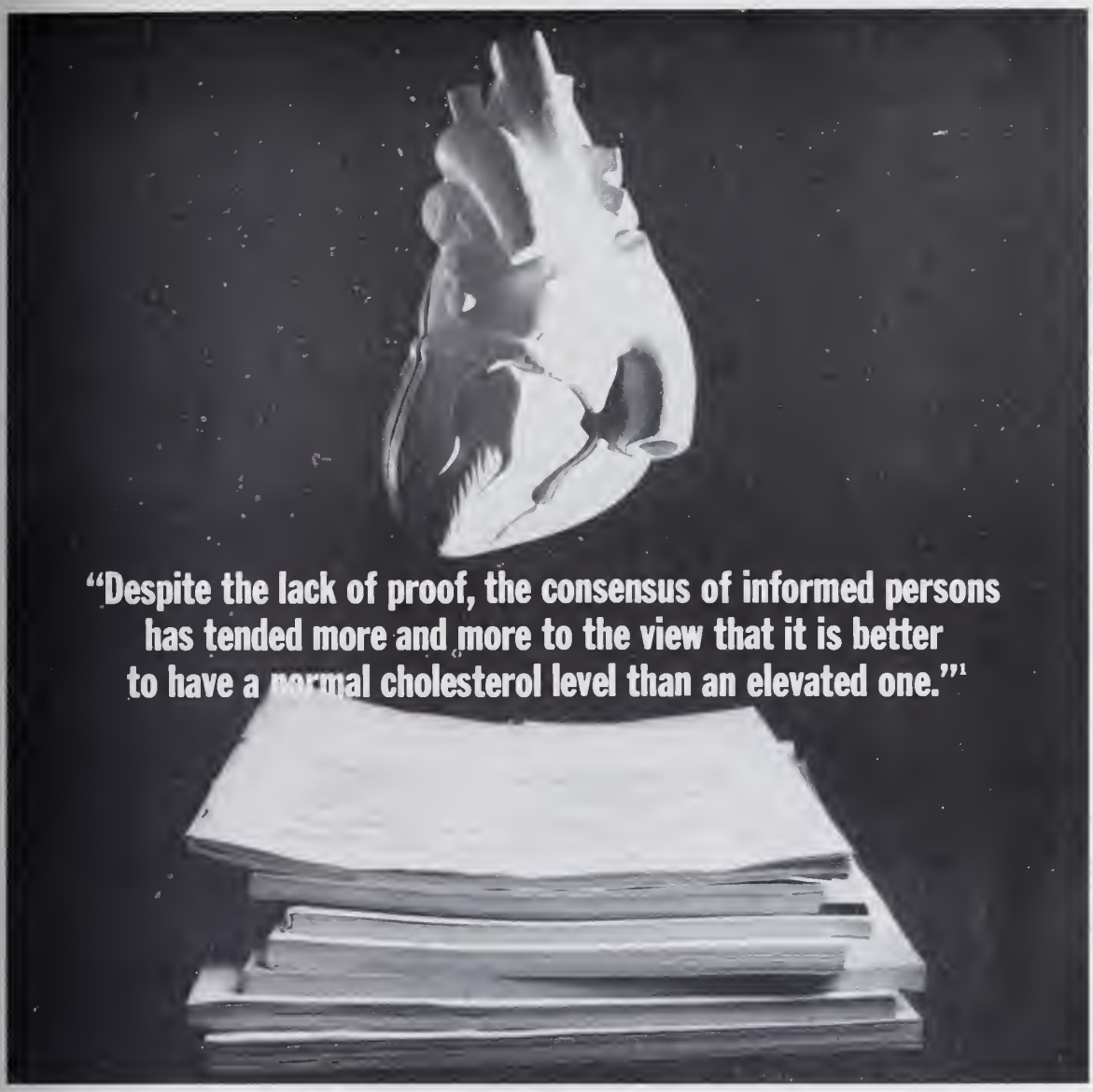
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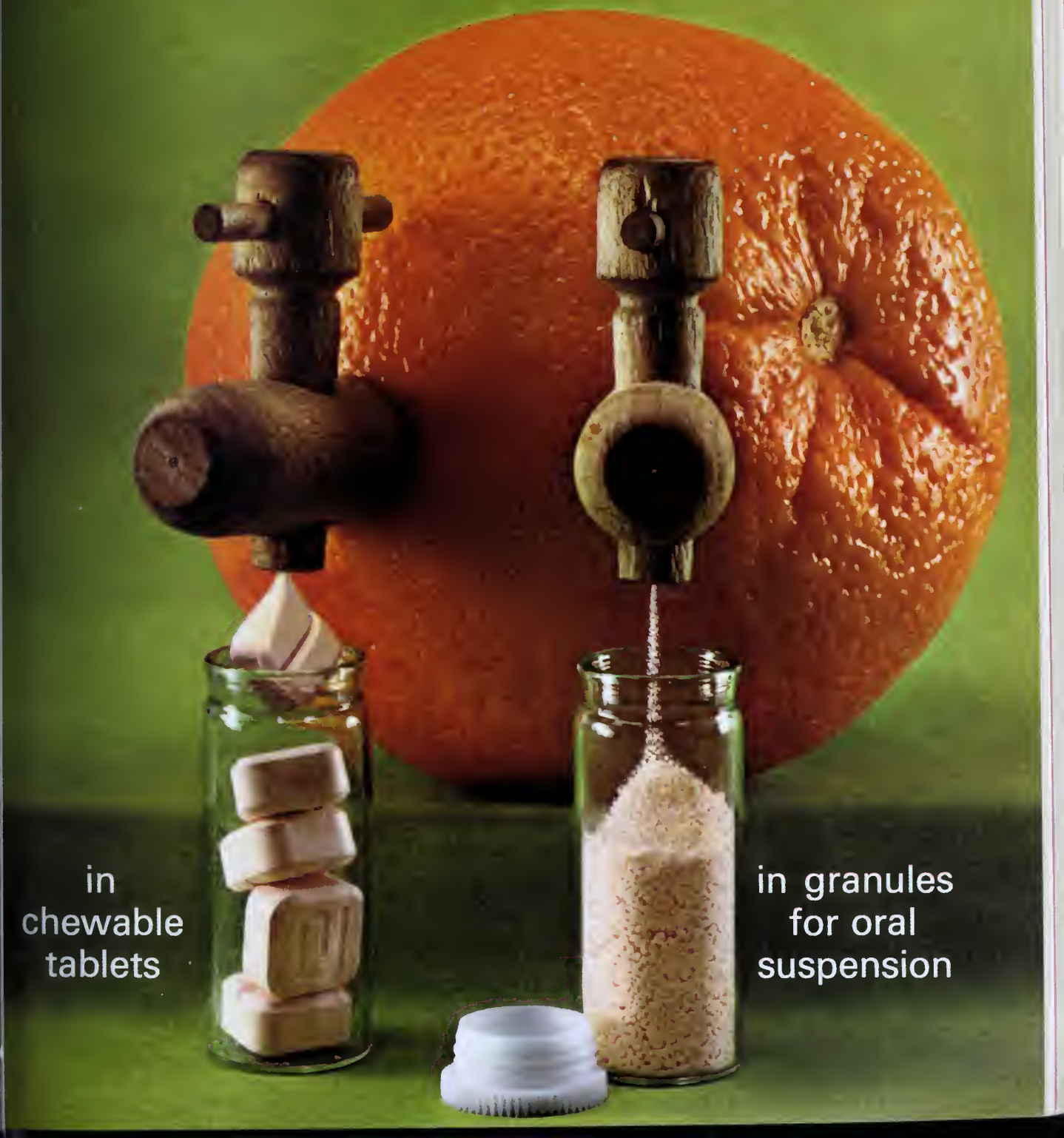
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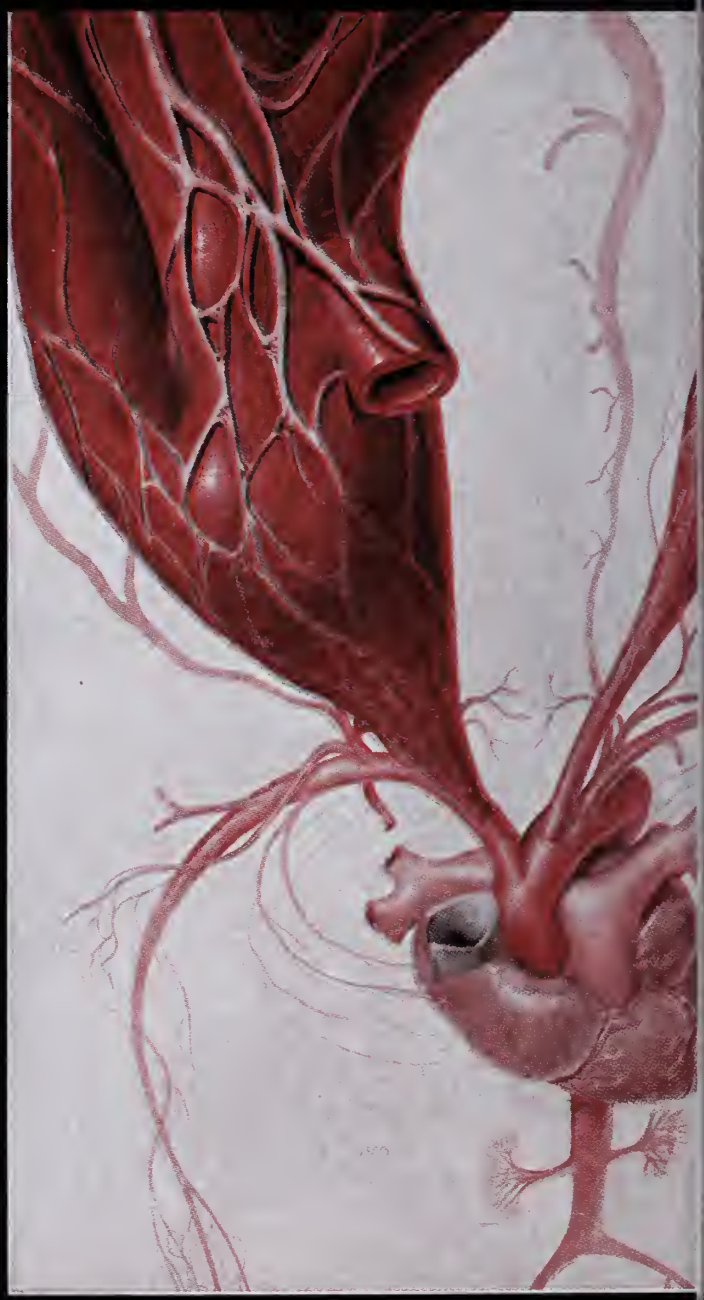
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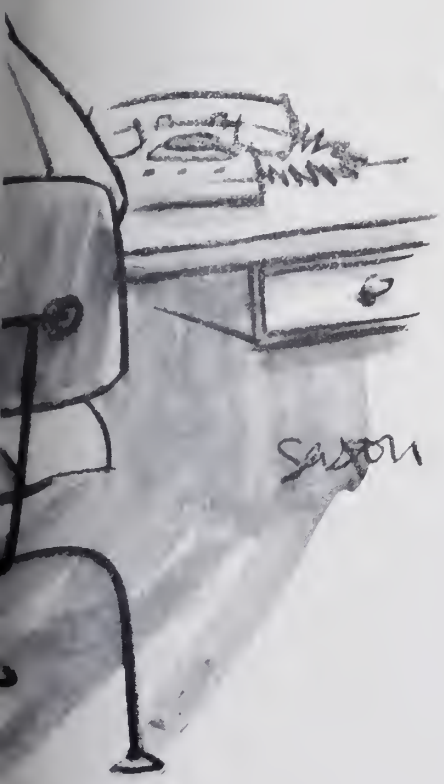
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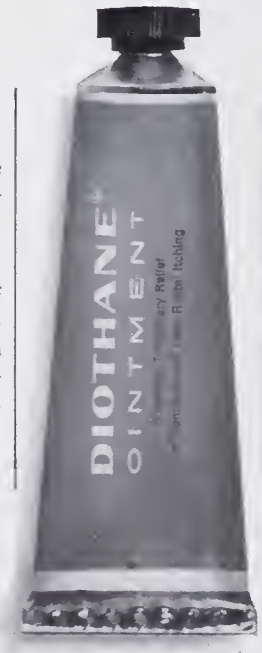
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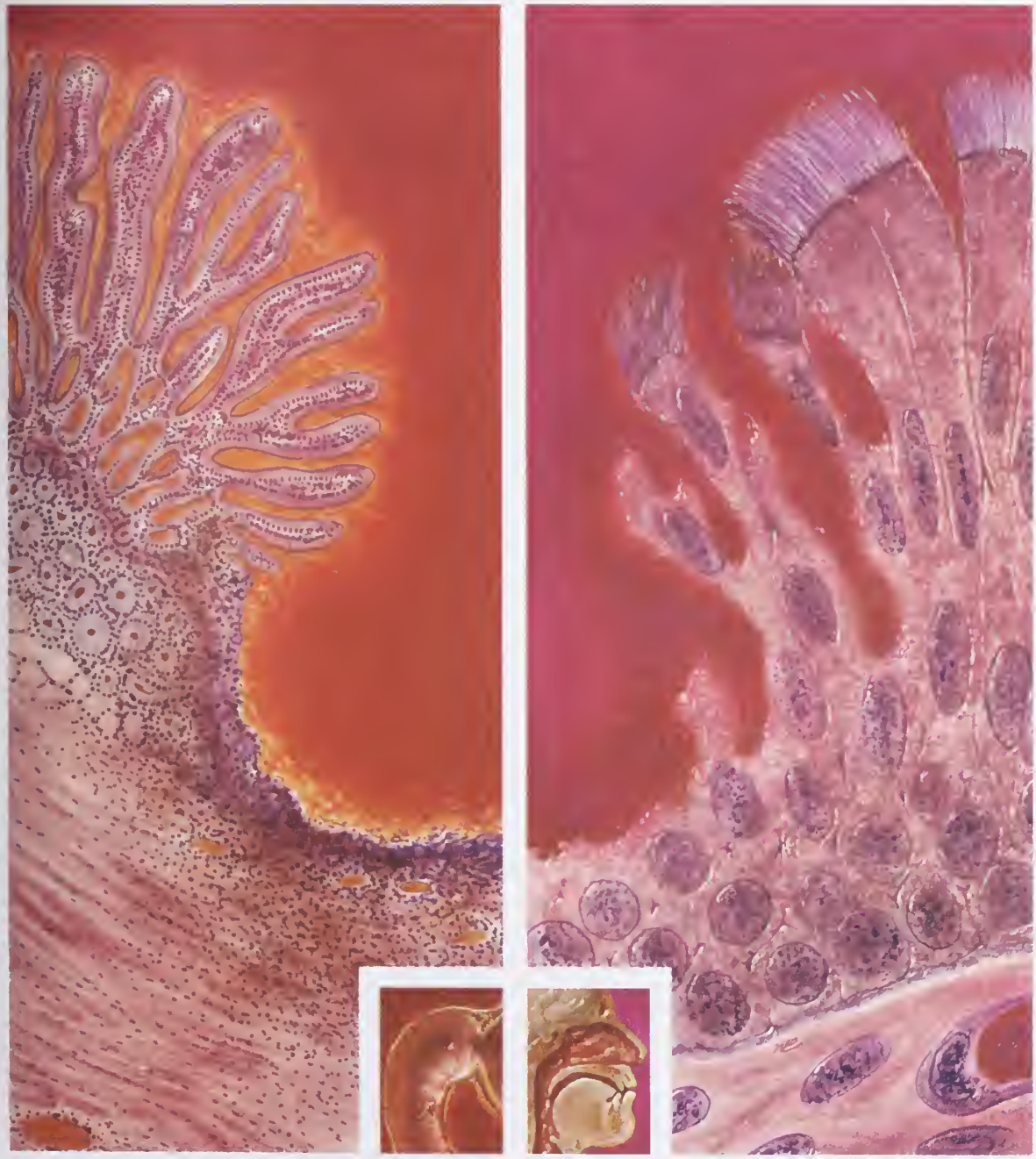
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Duodenal mucosa with ulcer crater—Approx. 80× Magnification.

Loosening epithelial cells of nasal mucosa during early stage of cold—Approx. 1800× Magnification.

this issue: partners in misery

Partners in misery: common cold and duodenal ulcer*



A century or two ago our forefathers believed that the common cold was caused by an excess of evil humors. Today we regard these baleful humors as a result of the cold rather than its cause. Only in the last ten years have some of the offending viruses been cultivated, and we now know many others can be transmitted to human volunteers although they cannot yet be grown in the laboratory. Various body defenses react to infection by a virus, and in the respiratory tract the lung is protected by the phagocytic properties of the pulmonary alveolar macrophage.[1]

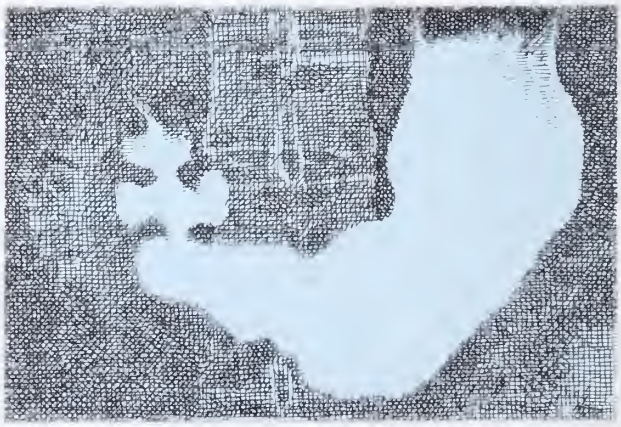
Because of the brief history and large proportion of unidentified viruses, effective prophylactic vaccines have not yet appeared. A universal antiviral agent seems even more remote. Meanwhile, these viruses continue to produce epidemics of upper respiratory infection at seasonal intervals, particularly in spring, fall and winter, during which they propagate and distribute progeny indiscriminately. As a result, they are responsible for significant work loss. Since the immunity afforded is temporary, recurrent infections are common.

This recurrent morbidity in spring and fall is shared by duodenal ulcer, itself a cause of significant loss in wages and medical expense. Thirty years ago Emery and Monroe reported 1,279 recurrences of peptic ulcer of which 13 per cent could be attributed to upper respiratory infection, thus confirming a long-held clinical impression.[2] While the inflammation, congestion and secretion of the mucosa of the nasopharynx in the common cold, and the hyperemia and hypersecretion of the gastric mucosa during acute exacerbation of a duodenal ulcer may not be directly linked, it is probable that the miseries of the infection are reflected in the pain of the ulcer. The following case history illustrates this point.

Case report A 48 year old white male executive, suffering from hematemesis and melena for 12 hours was admitted to hospital on April 8, 1965. He gave a history of duodenal ulcer proved by x-ray studies 23 years previously. In the intervening years he suffered from typical epigastric pain occurring two hours postprandially, usually for two or three weeks each spring and fall. A hospital admission two years earlier had followed hematemesis of moderate amount.

The present admission was preceded by a recurrence of pain during a period of unusual business pressure. In addition he caught a cold one week before his entry to hospital and his already irregular eating habits were made more so by loss of taste and appetite, blocked nose and general malaise. During the final 36 hours he used aspirin to relieve his cold, taking 2 or 3 tablets with a glass of water on 6 or 7 occasions. Before retiring he drank a glass of hot toddy.

He awakened about 1 a.m. and vomited dark red blood and recently ingested food mixed with whisky. Melena followed and he was transferred to hospital. On admission he was pale, cold and sweating. Apart from epigastric tenderness and black stool on the examining finger after rectal examination, his general physical examination was not remarkable. Temperature was normal, pulse was thin and thready with a rate of 114 beats per minute, and blood



The commonly found "clover-leaf" roentgenographic abnormality of chronic duodenal ulcer due to spastic contractions and scarring.



Typical site of duodenal ulcer showing anatomical relationship to gastroduodenal artery and common bile duct.

pressure measurement was 104/60mm. of mercury. Hemoglobin estimation was 8.6 grams per cent, but white blood count, chest x-ray and urinalysis were within normal limits. No further bleeding occurred. After blood transfusions and a suitable medical regime he was dismissed two weeks later and advised to return later for consideration of surgery.

The care of the ulcer patient suffering from a viral infection of the upper respiratory tract is additionally handicapped by the local and constitutional symptoms so produced. Indifference to food often makes it difficult to "feed a cold" even in a patient without an ulcer. In the ulcer patient this becomes more than a homily, for malaise and apathy towards irksome routine produce a lack of interest in adhering to an ulcer program and result in its eventual failure if these symptoms are not relieved. The absence of curative treatment for these viral infections has spawned many a strange therapeutic offspring and some of the more generally accepted remedies contain a special risk for the ulcer patient.

To the gastric physiologist, the shot heard around the world was not fired at Concord but was discharged through the stomach of Alexis St. Martin. The worthy voyageur had a more than modest thirst and on several occasions William Beaumont observed through the resulting fistula the changes of gastritis which followed an immoderate ingestion of alcohol.[3] It is now well known that alcohol stimulates the production of gastric juice and the patient with an ulcer, even in remission, should not drink alcohol without first taking food, milk or antacid. The use of various alcoholic remedies for the common cold is to be strongly discouraged in this type of patient. Factors already present can produce an acute exacerbation of ulcer symptoms without the added stimulus of alcohol.

Headache and facial pain, sore throat and generalized aching are subjective discomforts of viral infections of the upper respiratory tract or their complications. Relief from them is usually sought in the family medicine cabinet, and of all the medications habitually stored there, salicylates are the most frequently used. Oral ingestion of salicylates has produced



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substernal pyrosis and sometimes epigastric pain in susceptible individuals. Bleeding from erosions of the gastric mucosa has followed their use and has been severe enough in some instances to cause hematemesis and melena.[4] It has been suggested that interference with the protective mucous layer of the stomach allows this to happen. There is no evidence that hypersecretion occurs, but the taking of aspirin has been followed by exacerbation of ulcer symptoms and occasionally by gastrointestinal bleeding.[5] The ulcer patient with a cold should take salicylates with an antacid, or preferably other means of symptomatic relief should be found.

Caffeine has two actions on gastric secretion. One directly stimulates production of acid and the other potentiates the out-pouring of gastric juice as a response to other stimuli.[6] In high doses to animals, it has produced erosive gastritis and peptic ulceration. Caffeine-containing beverages are discouraged for the ulcer subject and forbidden during an acute exacerbation.[7] Many cold remedies contain caffeine.

To sufferers from allergic rhinitis springtime brings symptoms of nasal obstruction, loss of taste and smell and malaise similar to those caused by viral infection but due instead to allergens which at that time of year are principally tree pollens. Relief from these symptoms can be obtained, though not wisely, by the use of steroid medication. Unfortunately, chronic sufferers from these allergies have used this approach with varying degrees of success. Steroid hormones increase gastric secretion and delay the healing of experimental ulcers.[8,9] Clinically their administration has been associated with reactivation of healed duodenal ulcers, and with bleeding and perforation which were not always preceded by typical ulcer distress. Because of these harmful effects, their use in the ulcer patient is best avoided for other than serious medical problems and then only with adequate antacid coverage.

Summing up It is immaterial by which pathways the malaise and lassitude, depression and irritability activate an ulcer, but it is the physician's responsibility to ensure that the medications he selects to relieve the symptoms of a cold do not further aggravate the ulcer.

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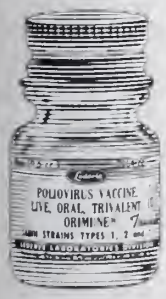
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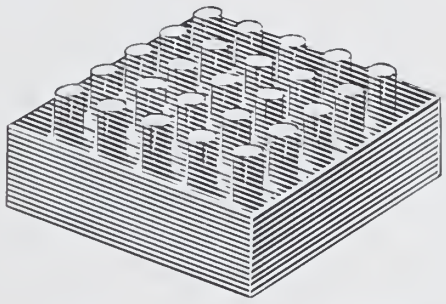


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*Rosenthal, S. R., Nikurs, L., Yordy, E., and Williams, W.: Scientific Exhibit Presented at the Annual Meeting of the National Tuberculosis Association, Chicago, Illinois, May 30-June 2, 1965.

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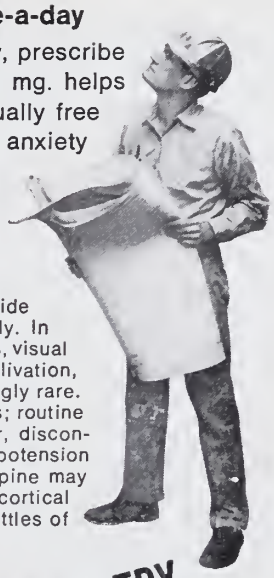
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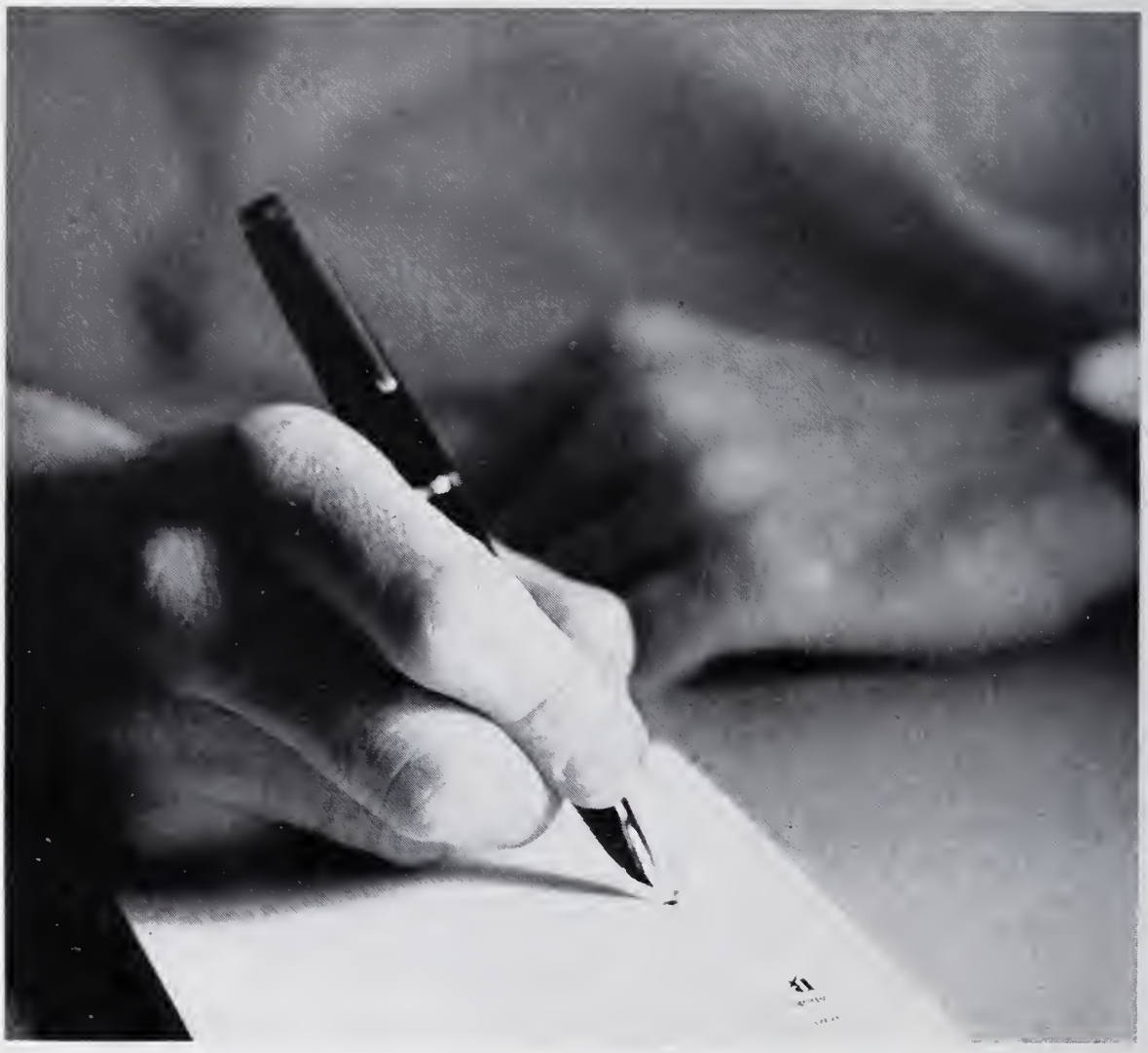
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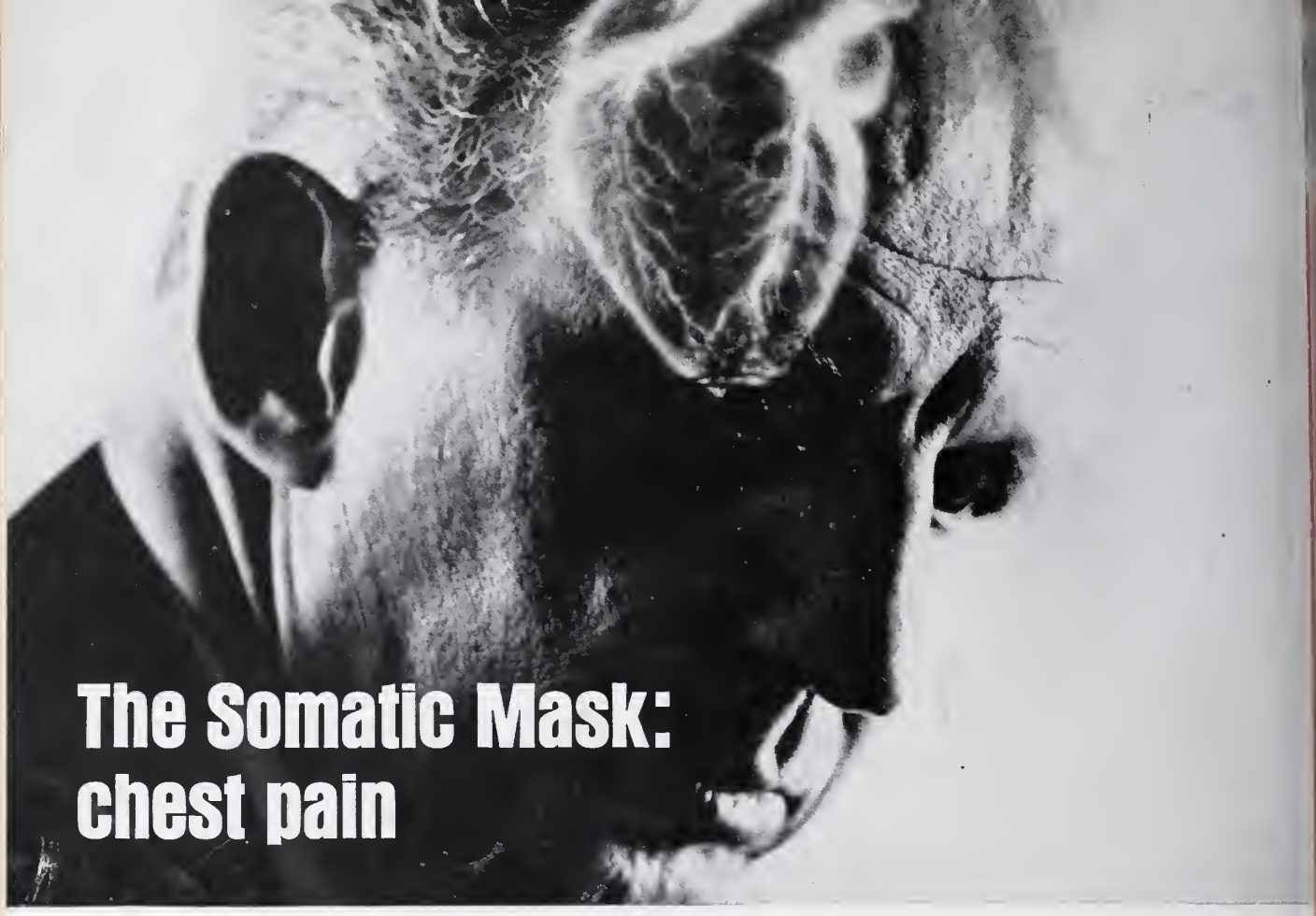
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Contraindications: Infants, patients with history of convulsive disorders or glaucoma.

Warning: Not of value in the treatment of psychotic patients and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazardous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash, paradoxical reactions (excitement, depression, stimulation, sleep disturbances and hallucinations) and changes in EEG patterns. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

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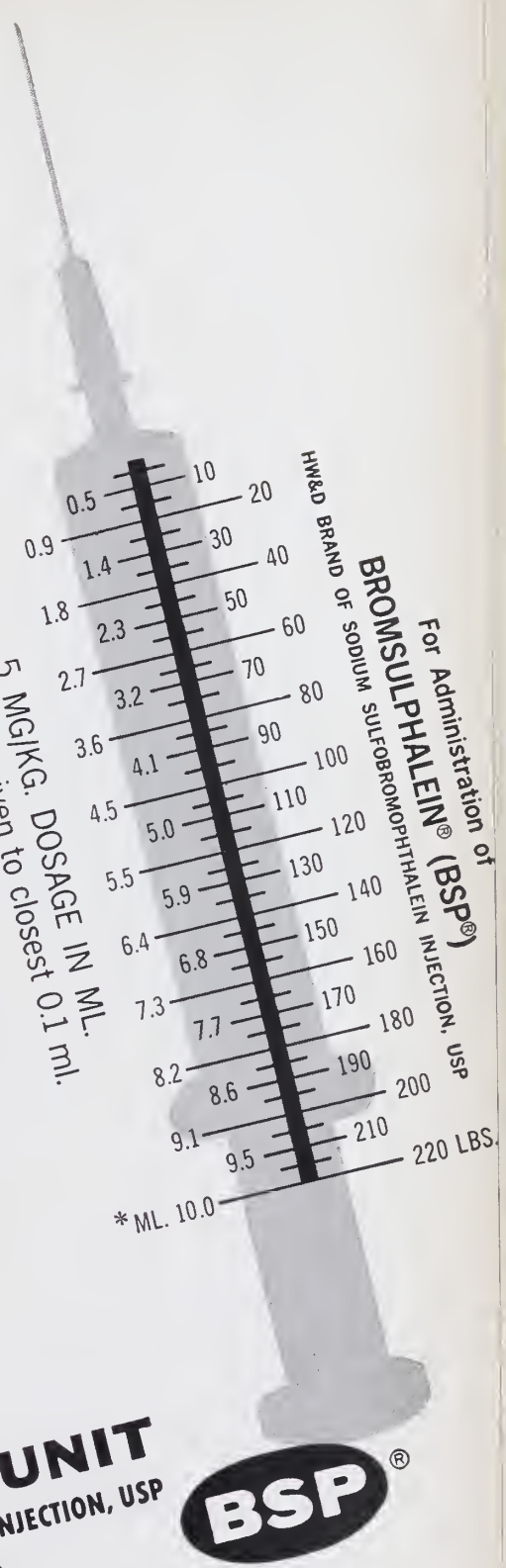
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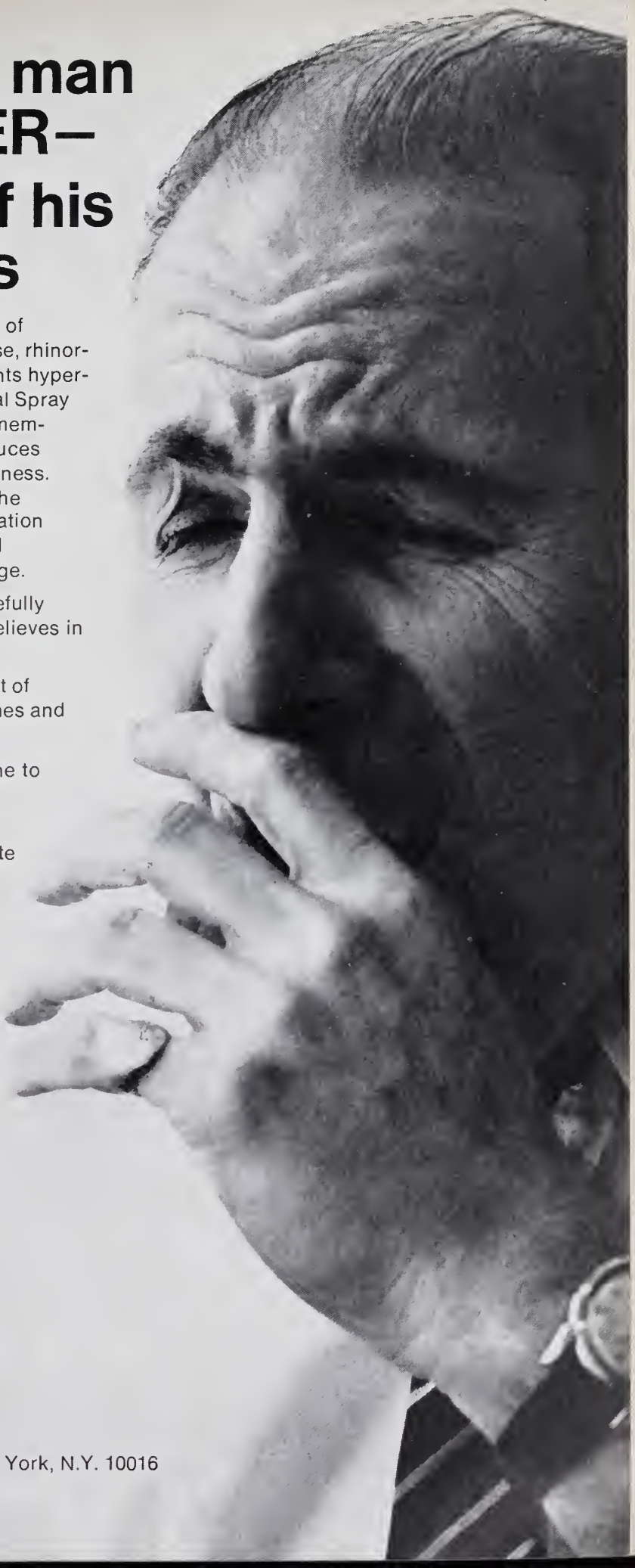
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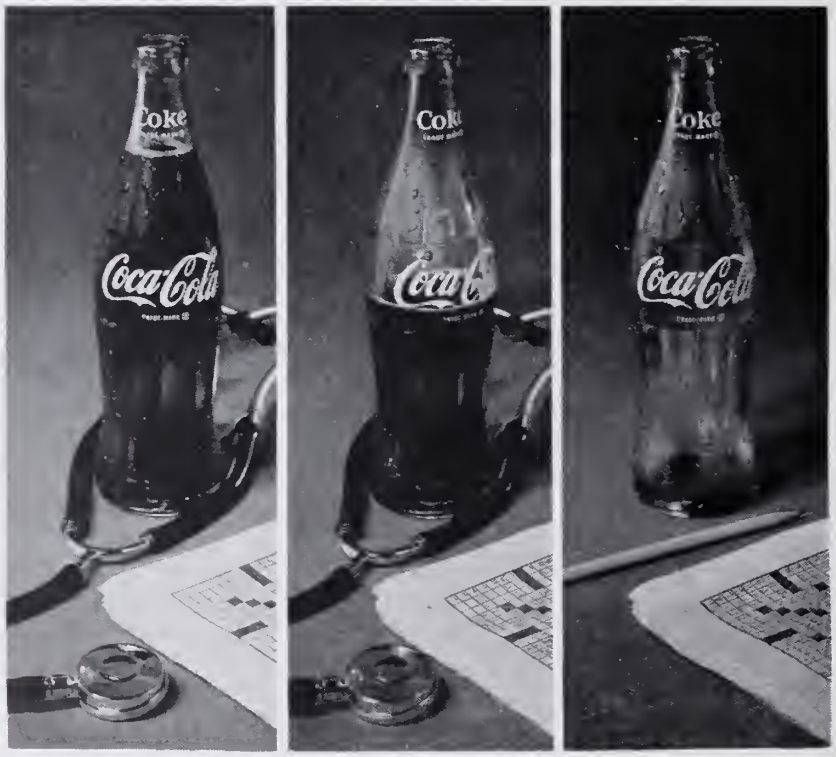
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The St. Paul is the approved carrier for the State Medical Association here... and in more states than any other single insurance company. It must be something we offer!

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VIRGINIA

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THE ST. PAUL
INSURANCE COMPANIES

Serving you around the world... around the clock

St. Paul Fire and Marine Insurance Company
St. Paul Mercury Insurance Company
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St. Paul, Minnesota 55102

Most of my patients with high blood pressure are as old as I am. A lot of them are living on pensions. They're grateful when I can keep prescription costs down.



Regroton®

chlorthalidone 50 mg. reserpine 0.25 mg.

1 tablet daily brings pressure down

Advantage: Both components of Regroton are long-acting.
Average dosage: One tablet daily with breakfast.
Contraindications: History of mental depression, hypersensitivity, and most cases of severe renal or hepatic diseases.
Warning: Discontinue 2 weeks before general anesthesia, 1 week before electroshock therapy, and if depression or peptic ulcer occurs. With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.
Precautions: Reduce dosage of concomitant antihypertensive agents by one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take particular care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended. Use with caution in patients with ulcerative colitis, gallstones, or bronchial asthma.
Side effects: Nausea, vomiting, diarrhea, muscle cramps, headaches and dizziness. Potential side effects include angina pectoris, anxiety, depression, drowsiness, hyperglycemia, hyperuricemia, lassitude, leukopenia, nasal stuffiness, nightmare, purpura, urticaria, and weakness.
For full details, see the complete prescribing information.
Availability: Bottles of 100 and 1000 tablets.

Geigy

natomy of
ow Back Pain #1



the sedentary life is often the seat of low back pain

The human spine is not engineered for prolonged sitting at desks, pianos, typewriters and drafting boards. The stresses set up by the heavy, forward-tilted head and trunk, balanced precariously on an insufficient base, result in strain of the dorsal musculature, particularly at the low lumbar level.

The unusual muscle-relaxant and analgesic properties of 'Soma' make it especially useful in the treatment of low back sprains and strains. 'Soma' is widely prescribed ☐ **to relieve pain** ☐ **to relax muscles** ☐ **to restore mobility.**

Indications: 'Soma' is useful for management of muscle spasm, pain, and stiffness in a variety of inflammatory, traumatic, and degenerative musculoskeletal conditions. It also may act to normalize motor activity in certain neurologic disturbances.

Contraindications: Allergic or idiosyncratic reactions to carisoprodol.

Precautions: 'Soma', like other central nervous system depressants, should be used with caution in patients with known propensity for taking excessive quantities of drugs and in patients with known sensitivity to compounds of similar chemical structure, e.g., meprobamate.

Side Effects: The only side effect reported with any frequency is sleepiness, usually on higher than recommended doses. An occasional patient may not tolerate carisoprodol because of an individual reaction, such as a sensation of weakness. Other rarely observed reactions have included dizziness, ataxia, tremor, agitation, irritability, headache, increase in eosinophil count, flushing of face, and gastrointestinal symptoms.

One instance each of pancytopenia and leukopenia, occurring when carisoprodol was administered with other drugs, has been reported, as has an instance of fixed drug eruption with carisoprodol and subsequent cross reaction to meprobamate. Rare allergic reactions, usually mild, have included one case each of anaphylactoid reaction with mild shock and angioneurotic edema with respiratory difficulty, both reversed with appropriate therapy. In cases of allergic or hypersensitivity reactions, carisoprodol should be discontinued and appropriate therapy initiated. Suicidal attempts may produce coma and/or mild shock and respiratory depression.

Dosage: Usual adult dose is one 350 mg. tablet three times daily and at bedtime.

Supplied: Two Strengths: 350 mg. white tablets and 250 mg. orange, two-piece capsules.

Before prescribing, consult package circular.

for the relief of low back sprains and strains

SOMA®
(CARISOPRODOL)

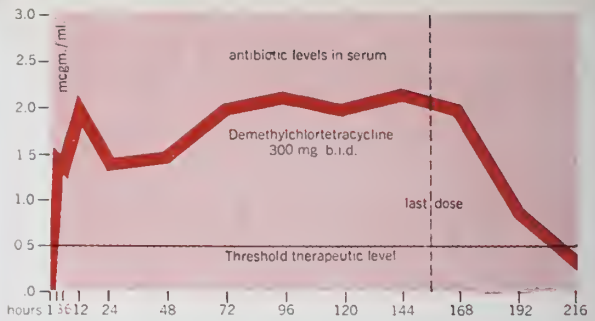
Wallace Laboratories, Cranbury, N.J.
26S01J



greater potency

lower mg intake per day

600 mg versus 1,000 mg

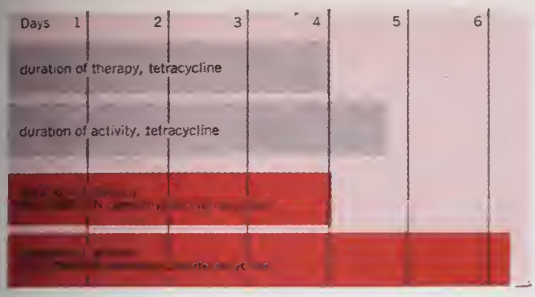


higher activity

levels than ordinary tetracyclines

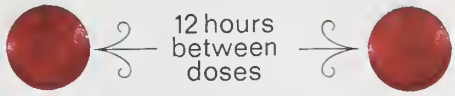
From Sweeney, W. M., Dornbush, A. C., and Hardy, S. M.;
Amer. J. Med. Sci. 243:296 (Mar.) 1962





1-2 days' "extra" activity

after the last dose to protect against relapse



one 300 mg Tablet mid-morning

one 300 mg Tablet mid-evening

It's made for b.i.d.

in G.U. infections

broad-spectrum performance above and beyond the activity of ordinary tetracyclines

DECLOMYCIN®

DEMETHYLCHLORTETRACYCLINE

Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

656-6 3762

Lederle



An eminent role in medical practice

- Clinicians throughout the world consider meprobamate a therapeutic standard in the management of anxiety and tension.
- The high safety-efficacy ratio of 'Miltown' has been demonstrated by more than a decade of clinical use.

Miltown®
(meprobamate)

Indications: Meprobamate is effective in relief of anxiety and tension states. Also as adjunctive therapy when anxiety may be a causative or otherwise disturbing factor. Although not a hypnotic, meprobamate fosters normal sleep through both its anti-anxiety and muscle-relaxant properties.

Contraindications: Previous allergic or idiosyncratic reactions to meprobamate or meprobamate-containing drugs.

Precautions: Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of pre-existing symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Usual adult dosage: One or two 400 mg. tablets three times daily. Doses above 2400 mg. daily are not recommended.

Supplied: 'Miltown' (meprobamate) is available in two strengths: 400 mg. scored tablets and 200 mg. coated tablets. 'Meprotabs' (meprobamate) is available as 400 mg. white, coated, unmarked tablets. *Before prescribing, consult package circular.*

WALLACE LABORATORIES
Cranbury, N.J.

CM-7814



in Transportation or Selecting Health Care Coverage,

DECISION MAKERS NEED FACTS IN DEPTH

The trucks that carry apples and turkeys to New York and the railroads that bring coal from mountain to seacoast are part of a busy and growing Virginia industry: transportation. Virginia's truck terminals, railway and bus depots, airports and seaports are sites of bustling activity as the State becomes increasingly important as a national distribution center. Industry leaders must make decisions that involve many complicated facts to maintain profits and to solidify Virginia's position as a vital transportation hub for the nation.

Facts in depth form the core of any successful business decision. The facts on health care coverage led decision makers in over 5,000 Virginia companies to protect employees against hospital and medical expenses with Blue Cross-Blue Shield. And over the past year, hundreds of these firms have added generous Major Medical coverage to their basic employee program. Major Medical benefits can deliver up to $20,000 in hospital and medical services in the event of serious illness or injury . . . all for just pennies a day per employee!

If you're considering an employee health care program, get the facts in depth from an expert. Talk with your local Blue Cross-Blue Shield representative. He works exclusively with health care coverage and will be happy to give you all the facts on a program that is tailored to your own company's requirements. Call him soon.

BLUE CROSS BLUE SHIELD
4010 West Broad Street Richmond, Virginia 23230

Should a determined lady always have the last word?

"Why can't you refill my prescription?"



Because, in the interest of safeguarding your health and welfare, a Federal law was enacted, effective February 1, 1966. This law restricts the refilling of prescriptions for certain drugs.

According to this law, certain prescriptions may not be refilled more than five times nor may they be dispensed or renewed more than six months after the date on which they were written.

If your prescription is subject to this law and has been refilled five times or is more than six months old, your Peoples pharmacist is required to contact your physician before you can receive additional medication. Since this all takes time, you can avoid delays by ordering your refills before you actually run out.

Remember, this law is a safeguard to your health which, when you think about it, is the reason Peoples is in business. Whenever your doctor prescribes medication, remember that Peoples will serve you courteously, efficiently, professionally.

PEOPLES

PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED MORE THAN 7 MILLION PRESCRIPTIONS IN 1965 . . . A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES

Number 4 of a series published in the daily newspapers.

We'd love to humor her . . . but not at a risk to her health. When she understands WHY Peoples can't refill an outdated prescription, she doesn't mind losing an argument. She wins anyway . . . she's safe. When you authorize her prescription renewal, we'll be happy to serve her . . . efficiently, courteously and professionally. Filling prescriptions has been our most important service since 1905.

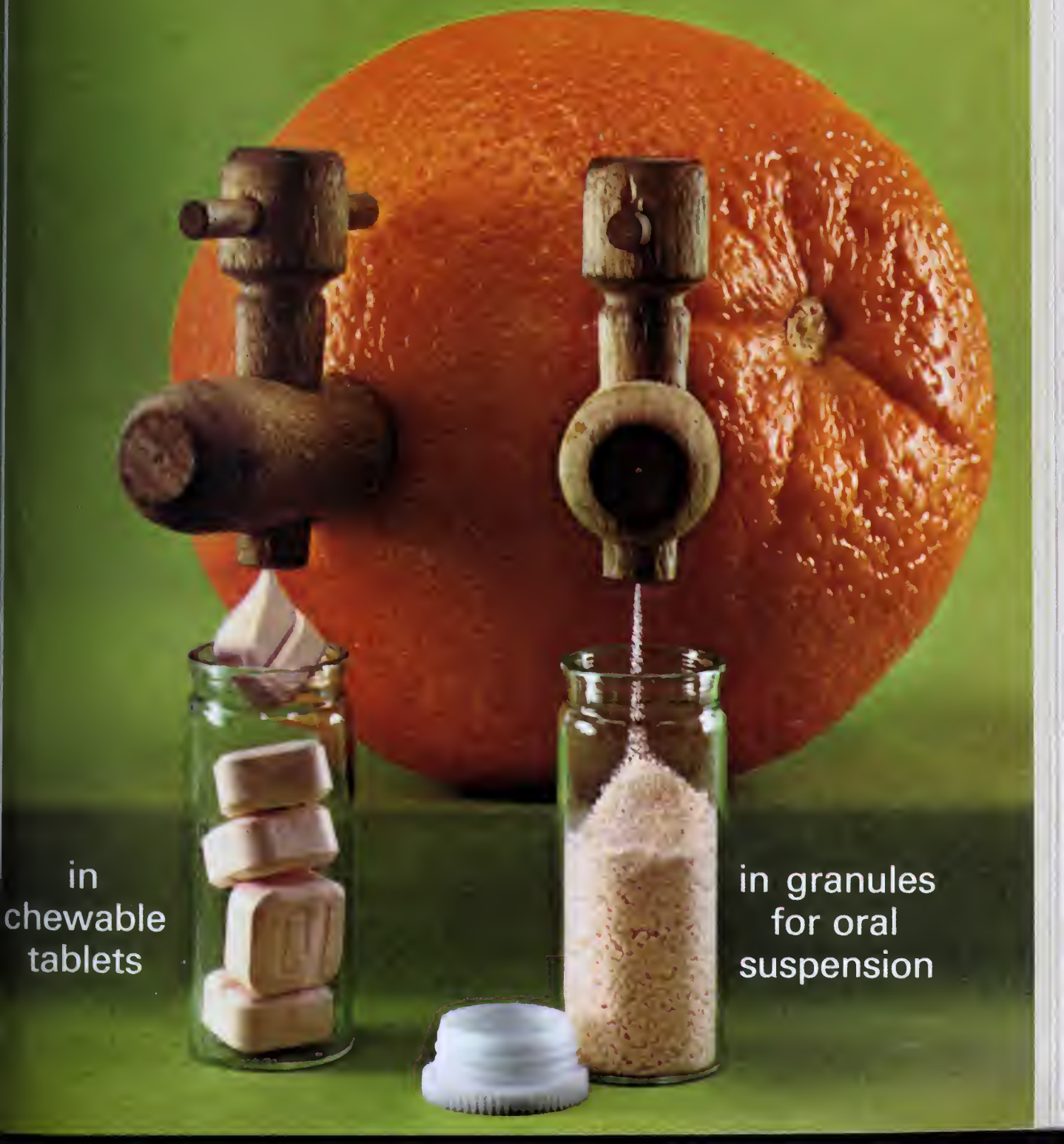
PEOPLES PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1965 • A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES

ANNOUNCING a potent combination in truly delicious orange-flavored forms:

ERYTHROCIN®-SULFAS

ERYTHROMYCIN ETHYL SUCCINATE–TRISULFAPYRIMIDINES



in chewable tablets

in granules for oral suspension

When combination antibiotic therapy is indicated...



CONSIDER: an exceptionally high cure rate in susceptible infections

The rationale: When combined, Erythrocin and the trisulfapyrimidines (triple sulfas) are indicated in infections that are more susceptible to the combination than to either agent alone. Such conditions are usually found in urinary, lower respiratory tract and chronic ear conditions.

The results: Clinical studies involving 142 young patients showed *an overall cure rate of 96.5%*. Side effects were experienced by only four of the patients.

The acceptance: The majority of the 142 patients studied expressed a definite liking for the products. *There were only two refusals.* An independent taste-test with 50 healthy children further substantiated the excellent acceptability of the orange-flavored forms.

602061

ERYTHROCIN®-SULFAS

ERYTHROMYCIN ETHYL SUCCINATE–TRISULFAPYRIMIDINES

In Chewable Tablets
In Granules for Oral Suspension



ERYTHROCIN-SULFAS
Brief Summary

Indications: Use Erythrocin-Sulfas in infections more susceptible to the combination than to either agent alone. These are usually found in urinary, lower respiratory tract, and chronic ear infections.

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or new born infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions: Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

If a reaction or overgrowth of nonsusceptible organisms occurs, withdraw the drug.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. each of sulfadiazine, sulfamerazine and sulfamethazine. 603303

ABBOTT



Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

Valentine's
MEAT EXTRACT

stimulates the appetite,

increases the flow of digestive juices,

provides: supplementary amounts of vitamins, minerals and soluble proteins,

extra-dietary vitamin B_{12},

protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA

This "case history" runs to some 10,000 pages

This is a typical "case history" of one new drug—or, rather, a proposed new drug—assembled for submission to the U.S. Federal Food and Drug Administration. These volumes are the result of several years' work by thousands of professional and skilled personnel in just one pharmaceutical company's research laboratories, and by hundreds of physicians in medical schools, hospitals, and private practice. They cover every aspect of experience with this proposed new agent from chemical laboratory to clinic, from mouse to man. Each volume could conceivably represent hundreds of thousands of dollars of financial investment, countless hours of human effort. This veritable mountain of data stands behind every new agent offered to you by pharmaceutical manufacturers—a reassuring testimonial to the efficacy, safety and purity of the drugs you will prescribe today to lower the cost of disease to your patients.

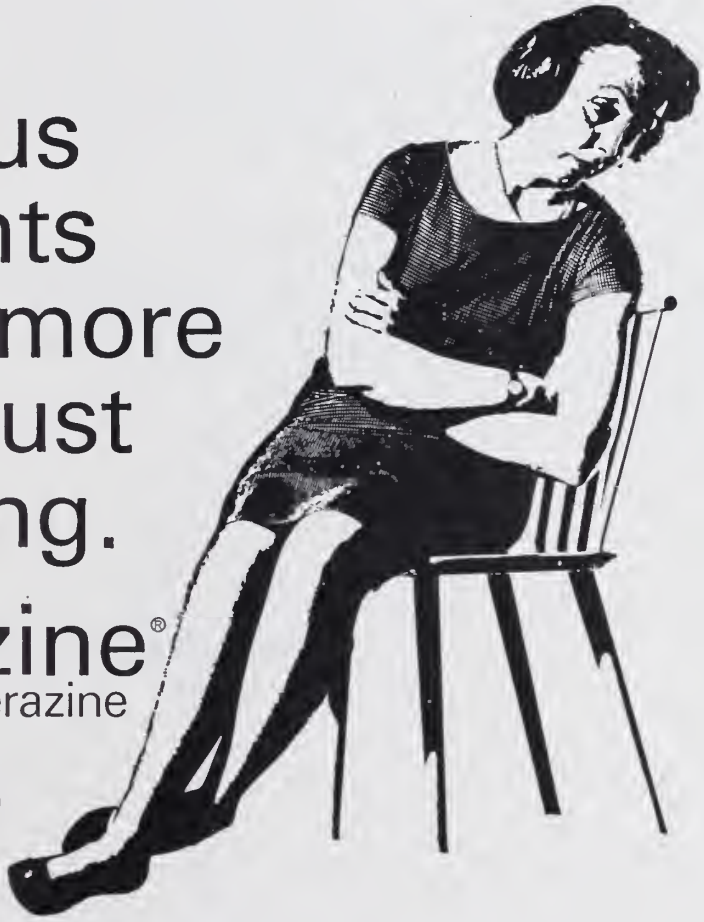
Pharmaceutical Manufacturers Association
Pharmaceutical Advertising Council

1155 Fifteenth St., N. W., Washington, D.C. 20005



This message is brought to you as a courtesy of this publication on behalf of the producers of prescription drugs.

Many anxious patients need more than just calming.



Stelazine®
brand of trifluoperazine

offers true tranquilization.

Sedative or muscle relaxant-type tranquilizers are often all that's needed for patients with temporary situational anxiety. But in the many patients whose anxiety presents a continuing problem these agents are limited by their generalized dulling effects.

'Stelazine' can attack anxiety directly without producing annoying dulling effects. On 'Stelazine', patients can react more normally to day-to-day stress yet remain alert, able to carry on their normal activities.

Contraindicated in comatose or greatly depressed states due to CNS depressants and in cases of existing blood dyscrasias, bone marrow depression and pre-existing liver damage. *Principal side effects,* usually dose related, may include mild skin reaction, dry mouth, insomnia, fatigue, drowsiness, dizziness and neuromuscular (extrapyramidal) reactions. Muscular weakness, anorexia, rash, lactation and blurred vision may also be observed. Blood dyscrasias and jaundice have been extremely rare. Use with caution in patients with impaired cardiovascular systems. Before prescribing, see SK&F product Prescribing Information.

SK&F Smith Kline & French Laboratories, Philadelphia

PENTID®-SULFAS FOR SYRUP

SQUIBB BUFFERED PENICILLIN POWDER WITH SULFADIAZINE, SULFAMETHAZINE, AND SULFAMERAZINE

the fruit punch that packs a wallop



Pentid-Sulfas for Syrup is a real knock-out when it comes to good taste. And, with a single prescription, you provide an anti-infective that combats both gram-positive and gram-negative bacteria. Notable for its economy, Pentid-Sulfas for Syrup is everybody's choice, patient, parent and physician.

Contraindications: Contraindicated in patients sensitive to sulfa or penicillin, pregnant females at term, premature infants, newborns during first week of life. **Precautions:** Watch for hypersensitivity reactions and overgrowth of nonsusceptible organisms. Observe usual precautions for sulfonamide therapy: adequate fluid intake; force fluids if urine volume is low; maintain urinary pH of 7 or higher; use only after critical appraisal in patients with liver or renal damage, urinary obstruction, blood dyscrasias. **Adverse Reactions:** Anaphylactoid shock (rare), G.I. disturbances, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, urticaria, purpura, hematuria, crystalluria, conjunctival and scleral varicula, petechiae may occur. **Dosage:** Daily pediatric dosage should supply 65-100 mg. trisulfapyrimidines per pound body weight in divided doses q. 4 to 6 h. **Supply:** Pentid-Sulfas for Syrup when prepared, provides 80 cc. (16 doses) or 150 cc. (30 doses) of fruit-flavored syrup providing in each 5 cc. teaspoonful 125 mg. (200,000 u.) potassium penicillin G and 167 mg. each of sulfadiazine, sulfamethazine, and sulfamerazine.

Now . . . **NEW PENTID® '400'—SULFAS FOR SYRUP** (buffered penicillin powder with sulfadiazine, sulfamethazine, and sulfamerazine each 5 cc. providing 250 mg. [400,000 units] potassium penicillin G and 167 mg. each of sulfadiazine, sulfamethazine, and sulfamerazine). Available in 16-dose (80 cc.) and 30-dose (150 cc.) bottles.

For full information, see Product Brief.

SQUIBB Squibb Quality—the Priceless Ingredient



after surgery

B and C vitamins are therapy: Therapeutic amounts of B and C in stress formula vitamins often are vital during periods of physiologic stress. STRESSCAPS capsules, designed to meet increased metabolic demands, aid in achieving a more comfortable convalescence, a more rapid recovery. After surgery, as in many stress conditions, STRESSCAPS vitamins are therapy.



Stresscaps®

Stress Formula Vitamins Lederle

FOR PROFESSIONAL RECOMMENDATION ONLY

Each capsule contains:

Vitamin B_1 (Thiamine Mononitrate)	10 mg
Vitamin B_2 (Riboflavin)	10 mg
Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

Lederle

627-6—3613

The discomforts of

DIARRHEA
MUCOUS COLITIS
DIVERTICULITIS
SPASTIC URETERITIS
BLADDER SPASM

are relieved by direct musculotropic action with.....

Trocinate®

BRAND THIPHENAMIL HCl

Available in 100 milligram pink sugar-coated tablets.

The high therapeutic index permits dosage sufficient to relieve spasm promptly. The usual initial dose is 4 tablets. Maintenance dosage is usually one or two tablets 4 times a day.

Trocinate *BRAND* THIPHENAMIL HCl
BETA DIETHYLAMINOETHYL DIPHENYLTHIOACETATE HYDROCHLORIDE

Directly relaxes smooth muscle spasm
Combats hypermotility
Non-mydriatic, may be used in glaucoma

Trocinate (Thiphenamil HCl) has been found in three clinical studies, (J. Mo. Med. Assoc., 48:685-6; Med. Rec. & Annals, 43:1104-6; J. Urol., 73:487-93), to be effective and to be virtually free of side-effects. Fifteen years of wide clinical usage has affirmed the safety and effectiveness of Trocinate.

DISPENSED IN BOTTLES OF
100, 250 AND 2000 TABLETS

Literature and samples sent upon request

WM. P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA
Manufacturers of ethical pharmaceuticals since 1856

Bamadex® Sequels®

Contraindications: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised; especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of pre-existing symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dose—operation of motor vehicles, machinery or other activity requiring alertness should be avoided. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia, the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor, and respiratory collapse.



First aid for a button popper



Second aid for a button popper

Bamadex® Sequels®

d-amphetamine sulfate (15 mg.) and meprobamate (300 mg.) Sustained Release Capsules

By providing combined anorexigenic-tranquilizing action. BAMADEX SEQUELS Capsules help your nonshrinking patients to establish new patterns of eating less. The amphetamine component suppresses the appetite, while the meprobamate helps allay nervousness and tension. And for most patients, the *sustained* release of the active ingredients makes possible convenient one-capsule-a-day dosage.

LEDERLE LABORATORIES • A Division of American Cyanamid Company, Pearl River, New York

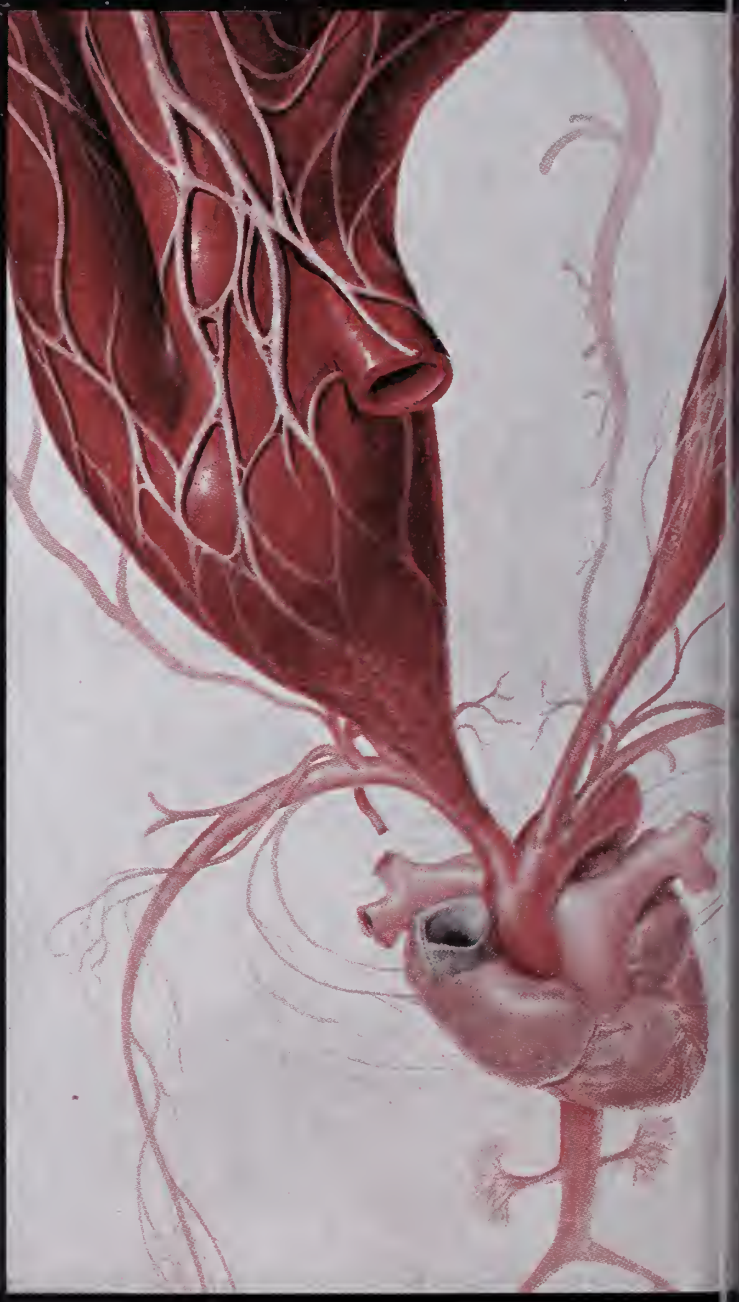
Lederle

6655

A Key Site of Action of the Protoveratrine A in Salutensin

"The main function of the carotid sinus is regulation of the blood pressure...."[1]

The veratrum component of Salutensin acts here (and in the myocardium), initiating "...a reflex fall in blood pressure through a generalized vasodilation and fall in heart rate."[2]



SCHWENK

This is a logical Blood Pressure Regulator

ECAUSE
T ENHANCES
HE BODY'S OWN
ECHANISMS
OR REDUCING
LOOD PRESSURE

In mild to moderate hypertension:

Salutensin enhances the body's own mechanisms for lowering blood pressure. The veratrum component of Salutensin acts on the carotid sinus and myocardial receptors, initiating "...a reflex fall in blood pressure through a generalized vasodilation and fall in heart rate."[2] To achieve this reflex modification of hypertension, Salutensin utilizes protoveratrine A. In addition, to facilitate and maintain blood pressure reduction, Salutensin incorporates reserpine and a highly effective thiazide. In general, side effects have been reported infrequently but may include those listed in the therapeutic summary.

Simple dosage—low-cost therapy: Many patients on Salutensin respond to 1 tablet *b.i.d.* Long-term economy is assured, since dosage can frequently be lowered after initial control is established.

Available: Prescription-size bottles of 60 tablets.

References: 1. Editorial: JAMA *191*:592 (Feb. 15) 1965. 2. Meilman, E., in Moyer, J.H.: Hypertension, Philadelphia, W. B. Saunders Company, 1959, p. 395.

BRISTOL THERAPEUTIC SUMMARY
For complete information consult Official Package Circular.
Indications: Essential hypertension.
Warnings: Small-bowel lesions (obstruction, hemorrhage, perforation) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs.
Contraindications: Salutensin is contraindicated in severe depression.
Precautions: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss, which may cause digitalis intoxication, responds to potassium-rich foods, potassium chloride or, if necessary, stopping therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy two weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution with patients with peptic ulcers or renal insufficiency (if severe, Salutensin is contraindicated).
Side Effects: Hydroflumethiazide: Purpura plus or minus thrombocytopenia, hyperuricemia, leukopenia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. *Reserpine:* Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth and, with overdosage, agitation, insomnia and nightmares. *Protoveratrine A:* Nausea, vomiting, cardiac arrhythmia, prostration, excessive hypotension and bradycardia. (Treat bradycardia with atropine and hypotension with vasopressors.)
Usual Dose: 1 tablet *b.i.d.*

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DOSAGE: *Children under 25 pounds*—5 mg. per pound of body weight every six hours. *Children 25 to 50 pounds*—125 mg. every six hours. *Adults and children over 50 pounds*—250 mg. every six hours. For severe infections, these dosages may be doubled.

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The Virginia
MEDICAL MONTHLY

July, 1966
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A Resolution on the Death of Medical Freedom: Threnody.

Whereas, It is the solemn duty of this Academy upon occasion to memorialize those of our brother-physicians who have left us, and

Whereas, With this precedent, we meet tonight for the purpose of paying tribute to Medical Freedom which will be extinguished July 1, 1966, the victim of political expediency and indifference; and

Whereas, We who have served Free Medicine are saddened by this event; therefore

Resolved, That we hereby affirm our deep feeling of loss.

Resolved, That we express the hope and wish that the ideals and aspirations of a free system of medicine will not perish, but will be perpetuated by the indestructible ideas that bind us together until such time in the unforeseeable future when Medical Freedom will again be established.

Resolved, That this resolution be incorporated in the minutes of The Roanoke Academy of Medicine, and that it be published in The Virginia Medical Monthly.

The Roanoke Academy of Medicine
Roanoke, Virginia

May 2, 1966

Clinical Disorders of Esophageal Motility

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JOHN T. FARRAR, M.D.
Richmond, Virginia

A practical device for measuring intraluminal pressures in the esophagus has been helpful in the diagnosis and study of disorders of the esophagus. It is useful as well in the differential diagnosis of chest pain.

THE DEVELOPMENT OF METHODS for recording intraluminal pressures in the esophagus has greatly advanced our knowledge of the physiology of this organ.[1,2,3,4] These methods have been simplified to the point where they may be applied to the practical evaluation of clinical esophageal problems. Endoscopic and radiologic examinations remain important clinical tools, but the results of such studies are often inconclusive. Muscular activity of the esophageal wall produces changes in intraluminal pressure which can be easily recorded. The resulting pressure record (motility record) is well tolerated, inexpensive to perform and may provide the most precise method for characterizing esophageal dysfunction. The purpose of this report is to emphasize the usefulness of this technique.

Intraluminal pressures are recorded by means of a catheter assembly consisting of three water-filled polyethylene tubes (P.E. 190, inside diameter 0.047 in.; outside diameter 0.067 in.) joined so that the pressure sensitive open tips lie 5cm. apart. The tubes transmit pressures to (Statham P32Db) strain gauge manometers coupled to a standard recorder (Electronics for Medicine). The tubes are swallowed and passed into the stomach. While the subject refrains from swallowing, the assembly is withdrawn at 0.5cm. intervals. The pressure profile obtained allows identification of the lower esophageal sphincteric zone during the "resting" state. Following this, recordings are obtained at various levels of the esophagus during the resting state and following deglutition. Respirations are simultaneously measured by means of a belt pneumograph placed around the waist of the subject. All recordings are obtained while the subject is supine.

The esophagus may be regarded as a hollow muscular tube with an upper and lower sphincteric area. During periods when swallowing is absent, the sphincters are contracted and pressures of 20 to 30cm. of water are recorded within the sphincteric zones. Upon swallowing, both sphincters promptly relax and a stripping contraction wave begins in the upper body of the esophagus and travels downward as a coordinated progressive wave, generating pressures of up to 50 to 100cm. of water. The lower esophageal sphincter, as noted above, has relaxed and therefore provides no barrier to the passage of esophageal contents into the stomach.

The most common symptoms of a disorder in swallowing are dysphagia and retrosternal pain. It is convenient to consider dysphagia localized to the upper esophagus and pharynx separate from that localized to

From the Deparment of Medicine, Medical College of Virginia.

the lower esophagus. This classification has an anatomic basis since the upper one-third of the esophageal musculature is striated and the lower one-third is smooth. Diseases which involve striated muscle fibers directly, (dermatomyositis, myotonic dystrophy) or which interfere with the innervation of striated muscle (bulbar poliomyelitis, amyotrophic lateral sclerosis, myasthenia gravis) may result in dysphagia.

In the past, this type of disturbance has been termed oropharyngeal dysphagia since the oral pharynx is predominantly involved. However, since the upper esophagus may be involved in addition, "striated muscle dysphagia" is a more accurate term. Diseases involving the smooth muscle or its innervation (scleroderma, diffuse spasm) may result in "smooth muscle dysphagia".

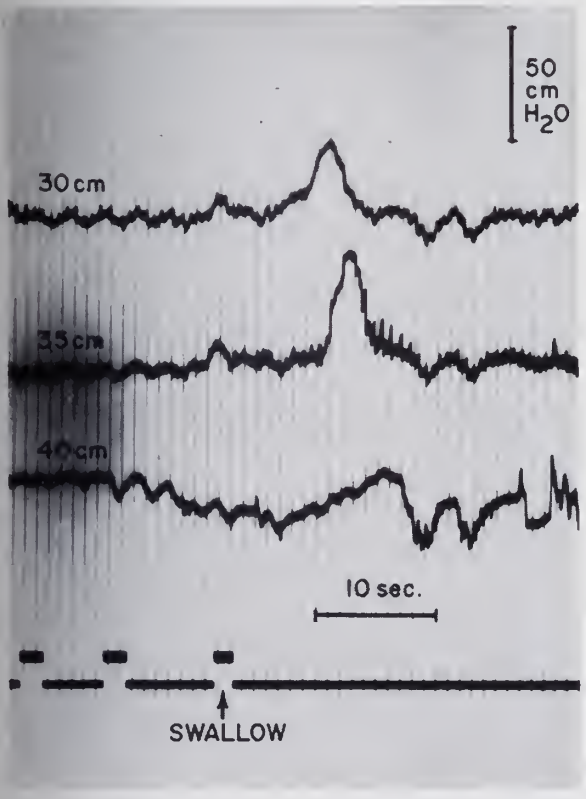


Fig. 1a. Myasthenia gravis: Normal motility record of the lower esophagus in a patient with myasthenia gravis. The peristaltic sequence is recorded by the open-tipped tubes located 30, 35 and 40cm. below the incisors. The open tip at 40cm. is in the lower sphincter, which relaxes after the swallow.

Several patients having striated muscle dysphagia have been studied in this laboratory. In one patient with myasthenia gravis the distal smooth muscle portion of the esophagus was normal (Fig. 1a). On repeated swallowing a pressure tip, positioned in the proximal esophagus, which has striated muscle, demonstrated diminishing amplitude of contraction suggesting striated muscle fatigue (Fig. 1b). Following the subcutaneous administration of edrophonium (Tensilon®), there was a prompt

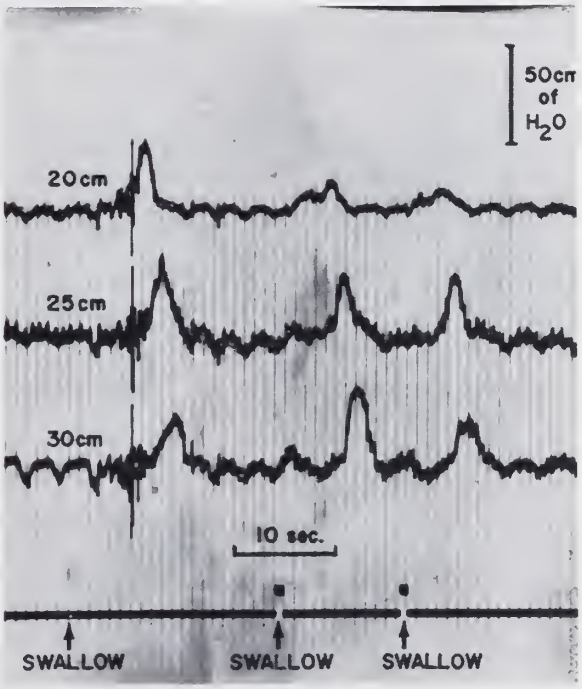


Fig. 1b. Myasthenia gravis: Tube positioned in the striated muscle portion of upper esophagus (20cm. below incisors) demonstrate diminishing amplitude of contraction after repeated swallows.

increase in the amplitude of contraction (Fig. 1c). In a recent report of a group of patients with a variety of neuromuscular disorders, similar recordings of decreased wave amplitude were noted in two of four patients having myasthenia gravis.[5] In this series, the effect of edrophonium was not assessed.

It would appear that esophageal manometry can be of value in the detection of a variety of diseases affecting striated muscle. Such studies may have value in following the course of the disease and evaluating the effectiveness of the therapy. In addition, some patients with amyotrophic lateral scle-

rosis, myotonic dystrophy, multiple sclerosis and other diseases thought to involve only striated muscle may also have smooth muscle

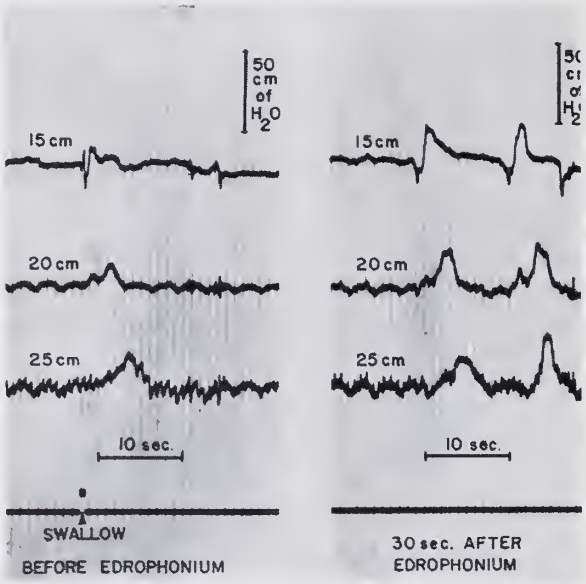


Fig. 1c. Myasthenia gravis: Tubes positioned in the pharynx (15cm.) and upper esophagus (20cm.) demonstrate prompt increase in amplitude of contraction following subcutaneous administration of edrophonium (Tensilon®).

dysfunction of the lower esophagus to account, in part, for some symptoms.[5]

One of the first clinical applications of the technique of esophageal intraluminal pressure determination was in the condition known variously as cardiospasm, megaesophagus, aperistalsis or achalasia. There is usually a history of dysphagia and a characteristic x-ray picture of esophageal dilatation with a smooth, concentric narrowing at the esophagogastric junction. Although it has been known for some time that there is a decrease or degeneration of parasympathetic ganglion cells in the body of the tubular esophagus, recent electron microscopic studies have revealed distinct morphological changes in esophageal smooth muscle.[6] These changes consist of detachment of myofilaments in large groups of smooth muscle cells, prominent ribosomes and alteration in the size of smooth muscle cells.

When the characteristic features of achalasia are present there is no difficulty in making the diagnosis. However, in the early stages of the disease, when only minimal or equivocal radiologic changes are present, a motility study may be diagnostic. Swallowing in such cases results in a non-peristaltic wave of low amplitude suggesting disordered propagation of the contraction wave. There is a normal resting pressure in the lower sphincteric zone, but swallowing fails to evoke a fall in pressure, indicating that there is no relaxation of the sphincter. It has been shown that the esophagus in achalasia is extremely sensitive to cholinergic agents and this forms the basis for the Mecholyl® (methacholine) test.[7] When this drug is

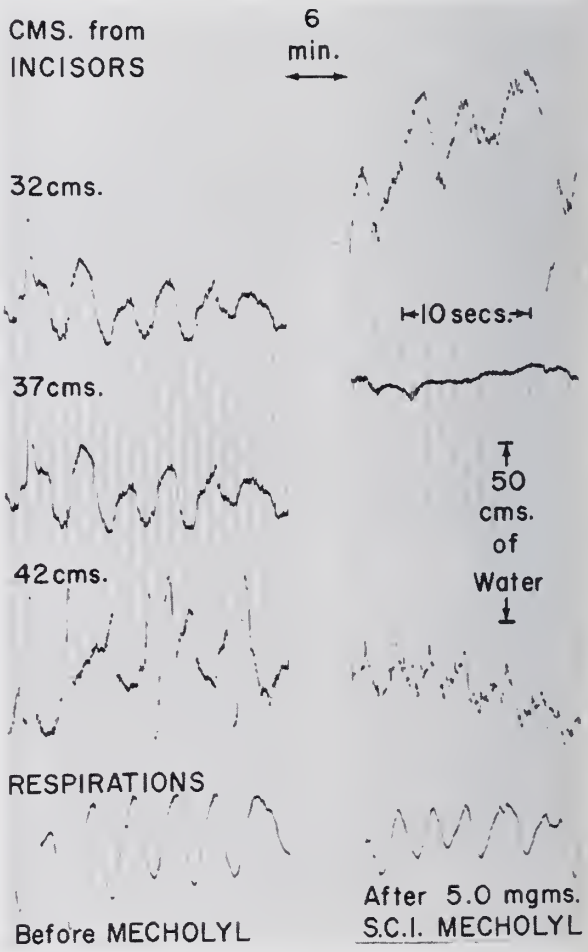


Fig. 2. Mecholyl Test in patient with achalasia: There is a rise in intraluminal pressure in the body of the esophagus (32cm., 37cm.) following the subcutaneous administration of Mecholyl. A tube positioned in the sphincter (42cm.) reveals no increase of pressure.

administered subcutaneously there is a striking, and often sustained increase in the rest-

ing intraesophageal pressure which may be accompanied by substernal pain and retching. A positive Mecholyl test is shown in Fig. 2.

Another important clinical application of esophageal manometry is in the documentation of scleroderma of the esophagus. Since involvement of the esophagus may precede the typical skin changes of scleroderma,[7] motility studies may provide a clue as to the nature of the systemic disease. The radiologic finding of atony and dilatation of the lower esophagus, coupled with marked diminution or complete absence of the normal peristaltic stripping wave suggest either scleroderma or achalasia. Motility tracings are characteristic in scleroderma and aid in identifying this type of smooth muscle dysphagia. The major finding is absence of an intraluminal pressure increase on swallowing (Fig. 3a) denoting impaired contractile

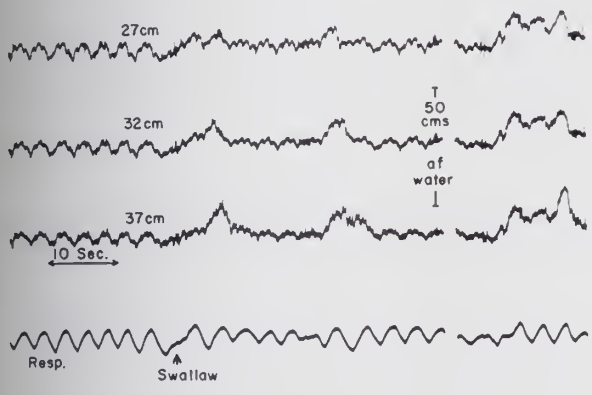


Fig. 3a. Scleroderma: Feeble simultaneous contractions in the body of the esophagus in a patient with scleroderma.

activity of the involved smooth muscle. There is failure of the distal sphincter to maintain a normal elevated resting pressure reflecting loss of spincteric function. It has been stated[1,13] that the lower sphincter fails to relax. We have been unable to evaluate or confirm such a failure of relaxation for the following reasons: The criteria for relaxation is a decrease in the elevated intrasphincteric pressure. Since the pressure in the sphincter is never elevated in scleroderma, no conclusion can be drawn regarding relaxation. Normal pressures are recorded from the uninvolved striated muscle portion of the upper esophagus (Fig. 3b). The characteristic response of achalasia following administration of methacholine is absent in scleroderma.

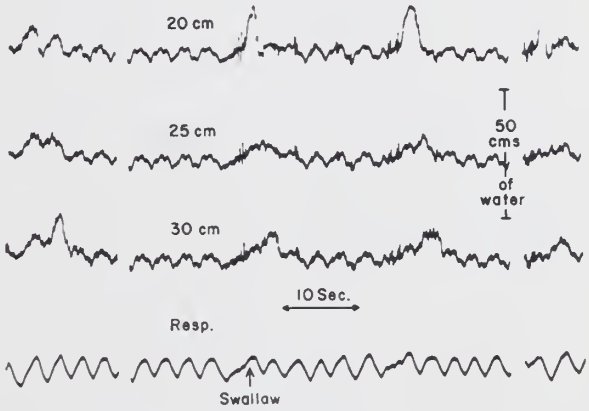


Fig. 3b. Scleroderma: Feeble contractions at 25cm. and 30cm. Normal pressure in upper esophagus (20cm).

During the past few years, a number of papers have described a group of patients all of whom have some derangement of esophageal smooth muscle function and are characterized by dysphagia and/or substernal pain.[9,10,11] The classical features of achalasia are absent. The clinical spectrum is wide; included in this group are patients with disordered peristalsis associated with acid reflux due to hiatus hernia, elderly patients with "curling" of the esophagus,[12] the hypertensive and hyperreactive gastroesophageal sphincter,[14] and a group who suffer from what has been called "diffuse spasm of the esophagus." The relationship between these ill-defined entities is not clear. The latter group has received considerable attention recently but despite several excellent clinical studies,[9] diffuse spasm of the esophagus remains poorly understood. Little is known as to the cause; the pathologic features have been investigated only rarely. A recent electron microscopic study of specimens from six cases of diffuse spasm revealed degenerative changes in the esophageal vagal nerves whereas minimal focal changes were observed in the esophageal smooth muscle.[6]

It is reasonable to speculate that the common denominator in the entire spectrum which includes diffuse spasm and allied diseases may be an alteration in the afferent receptor sites.

When pressure records are obtained in patients with diffuse spasm the findings include non-peristaltic, repetitive and often spontaneous high pressure waves in the lower esophagus (Fig. 4). Repeated studies have demonstrated that these changes are often variable and even transient. In some patients

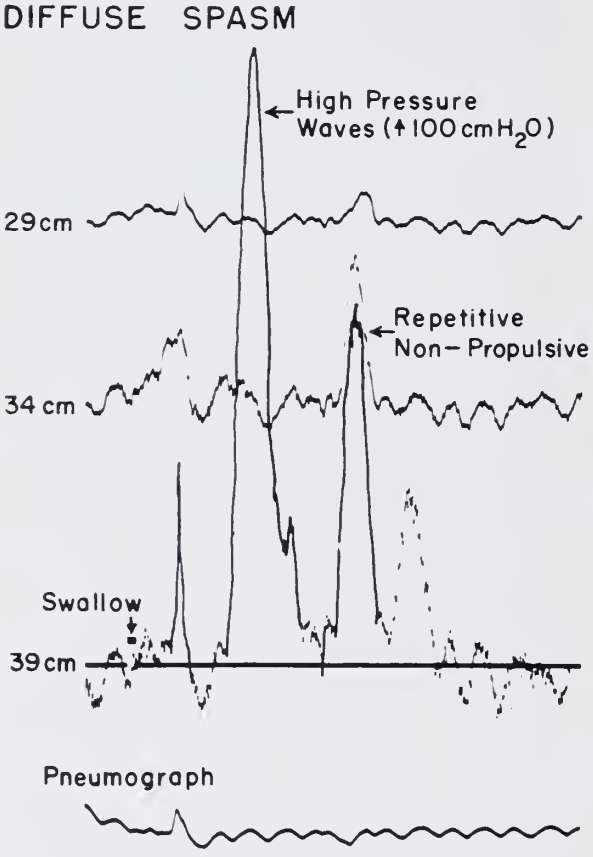


Fig. 4. Diffuse Spasm: Repetitive, non-peristaltic high pressure waves are recorded at 34cm. and 39cm. Record retouched for clarity.

the perfusion of 0.1 N hydrochloric acid into the esophagus, simulating reflux of gastric acid, may produce an abnormal pressure pattern or exaggerate a slightly abnormal pattern.

There is a great need for an objective means of evaluating pain originating in the thorax. Since the innervation of the esophagus and the heart is similar, it is not surprising that the location, quality and radiation of pain from esophageal disorders are similar to those of the pain of ischemic heart disease. That esophageal disorders may initiate cardiac dysfunction is supported by a recent study in which intraesophageal instillation of 0.1 N hydrochloric acid was accompanied by the demonstration of a pattern suggestive of diffuse esophageal spasm, multiple extrasystoles, and a bigeminal rhythm.[13] Although an abnormal esophageal motility pattern in a patient with atypical angina is very suggestive that the pain originates from the esophagus, there is no reliable way of excluding a cardiac component. Despite the limitations, we and others[11] have found manometry of value in patients with chest pain suggesting myocardial ischemia, but in whom there is no objective evidence of heart disease.

Finally, an esophageal motility record may be clinically helpful in excluding cer-

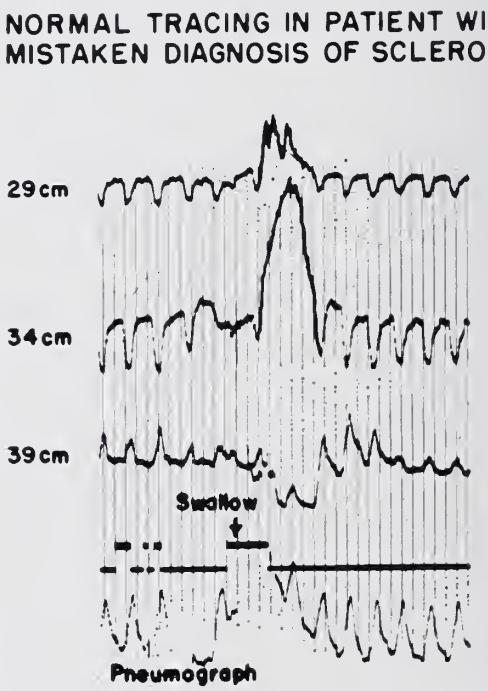


Fig. 5. Normal tracing in a patient with a mistaken diagnosis of scleroderma. The presence of a normal peristaltic wave excluded scleroderma of the esophagus in this patient. Record retouched for clarity.

tain diagnoses and indicating the need to search for other causes for the disordered

function. An example of this is a young girl who was being followed in the clinic for two years and who was thought to have scleroderma of the esophagus. A motility tracing (Fig. 5) revealed normal motor function of the lower esophagus, ruling out scleroderma. Further studies demonstrated peptic esophagitis and therapeutic measures were instituted to minimize further reflux from the stomach. Similarly, the finding of a normal motility record in an elderly patient with dysphagia may be interpreted as ruling out achalasia or diffuse spasm and makes investigation for malignancy mandatory.

Summary

1. Clinical disorders of swallowing may be classified as striated muscle dysphagia when they are localized in the pharynx and upper esophagus and as smooth muscle dysphagia when they are localized to the lower esophagus.

2. Esophageal manometry is easy to perform and allows for precise clinical evaluation of esophageal dysfunction.

3. Achalasia and scleroderma can be easily identified when endoscopic and radiologic results are equivocal.

4. Diffuse spasm of the esophagus, which often causes dysphagia or substernal pain, is associated with a characteristic motility record.

5. The clinical differentiation between pain of ischemic heart disease and that of esophageal motility disorders may be facilitated by esophageal manometry.

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Esophageal Atresia with Tracheo-Esophageal Fistula

A Review of This Problem and a Report of Nine Cases*

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Most cases of congenital esophageal atresia can be treated successfully if the diagnosis is made promptly.

CONGENITAL ESOPHAGEAL ATRESIA with or without a fistula is the most common cause of persistent choking and cyanosis in the newborn infant.[1] It occurs in approximately 1 out of 4,000 births and its pathogenesis is not fully understood. It develops between the third and sixth weeks of fetal life. Failure of complete closure of the laryngotracheal groove is thought to be responsible for the fistula formation while pressure from an anomalous ban has been incriminated as contributing to the atresia.

Esophageal atresia was first recognized as early as the 17th century. In 1913 Richter felt that single stage correction was possible but "certainly hazardous".[2] It was not until the late 1930's that Leven[3] and Ladd,[4] independently of each other, reported two patients they had successfully treated by multiple stages. Haight[5] is credited with accomplishing the first successful single stage correction. He performed this in 1941. Since then much has been written about this problem and Gross[6] and Koop[7] have contributed tremendously to it.

Esophageal atresia is often associated with prematurity. Between 25% and 40% of the infants born with this abnormality are premature while in normal infants only 7% are premature.[8] Associated anomalies are also present in approximately 25% of patients with esophageal atresia.[9] These associated anomalies will often lead to the death of the child if not corrected.

The diagnosis of esophageal atresia may be very easy to make. The characteristic symptoms of choking, coughing, cyanosis and respiratory distress may be manifested shortly after birth. Occasionally, however, it is not recognized until several days postdelivery when feedings are begun. Abdominal distention is often present (Fig. 1) but this is dependent upon the presence of a fistula's tract communicating with the respiratory tree. If the fistula's tract is not patent or if there is no fistula the abdomen may be schapoid. Very often only the PA and lateral chest films are needed to make the diagnosis. (Fig. 2) When esophageal atresia is suspected, a lateral view of the chest should always be obtained.

The diagnosis of esophageal atresia is suspected when the newborn infant presents with the above signs and symptoms. However, if there is still doubt, the diagnosis may be confirmed by passing a small, firm, radiopaque catheter into the upper esophagus under fluoroscopy. Injection of a water-soluble contrast media may be done as a last

*Presented at the Virginia State Medical Society Meeting, Richmond, October 12, 1965.

resort. (Fig. 3) The amount of contrast media injected should be small because spillage into the respiratory tree may complicate the already hazardous pulmonary problems. All the dye is removed from the pouch prior to discontinuing the procedure. Roentgenograms of the abdomen are also obtained to evaluate the presence of air in the stomach and lower gastrointestinal tract which may help in evaluating anomalies below the diaphragm. When the diagnosis of esophageal atresia is resolved, vigorous therapy is directed toward preparing the child for surgery. If no preoperative problems exist, surgery should be undertaken without delay. As a general rule, however, pulmonary complications have developed by the time the diagnosis is made.

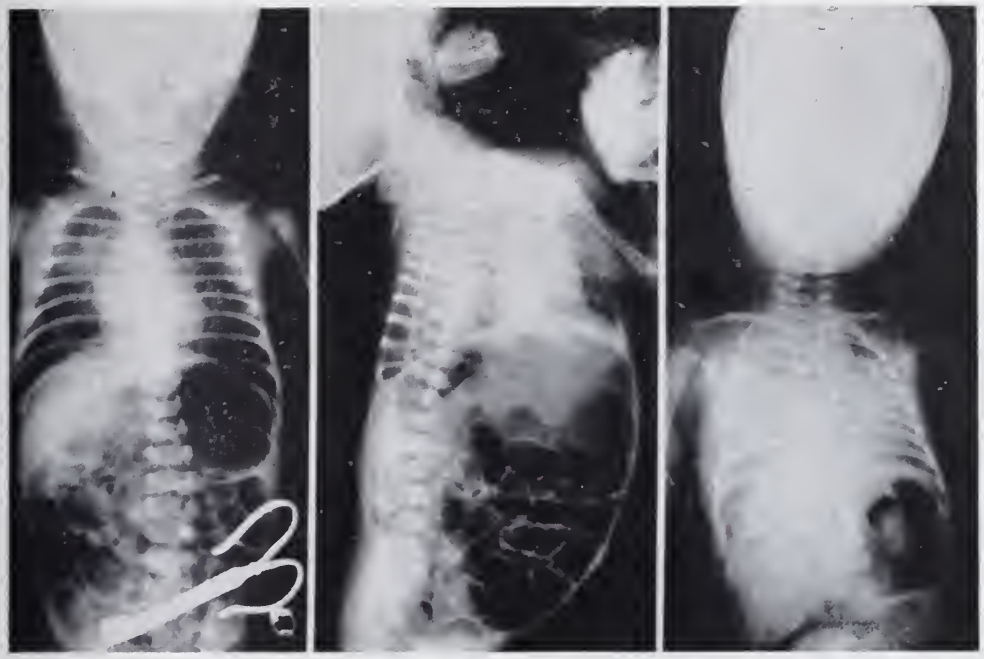


Fig. 1

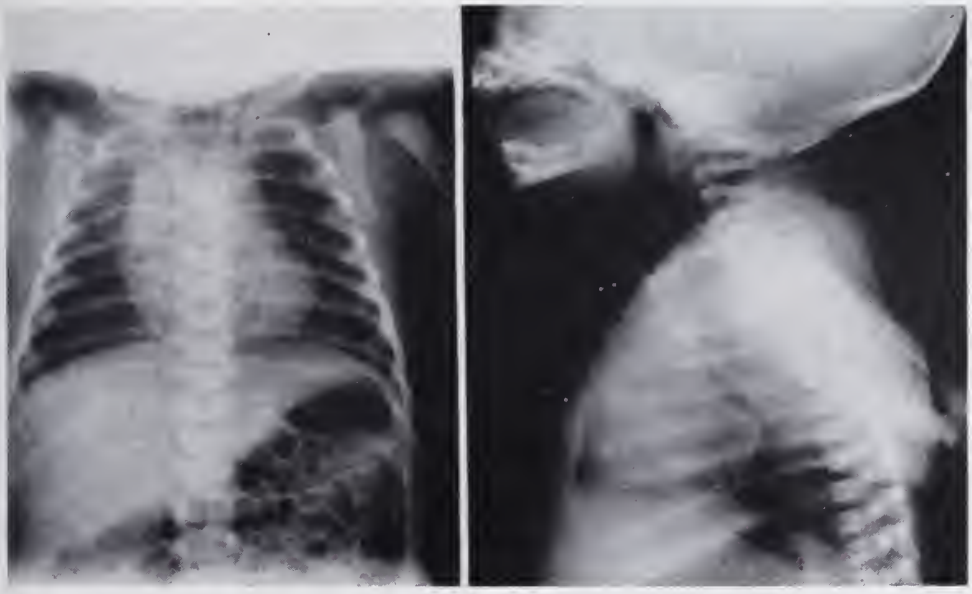


Fig. 2

Preoperative preparation consists of placing the infant in an atmosphere of high

humidity, preferably in a head up position. Constant changing of position should be done to enhance drainage from the pulmonary tree. Suctioning of the posterior



Fig. 3

pharynx and upper trachea is most important and should be carried out whenever necessary. For this preoperative management the infant should be under constant surveillance by a well trained nurse or house officer, preferably in an intensive care unit or recovery room. Dehydration is corrected with dextrose and water in the amount of 15cc. per pound and saline solutions are not usually required in the preoperative period. Prophylactic antibiotics are used.

Thirty-six to forty-eight hours is usually the time allotted for preoperative rehabilitation of these infants. To delay surgical correction any longer would jeopardize the infant's life. Usually, however, preoperative conditioning is accomplished more readily than this time period and surgery is undertaken immediately.

The surgical approach to the problem of esophageal atresia with or without fistula is not stereotyped and comparable results have been obtained by employing the more acceptable approaches to this problem. We feel that gastrostomy should be instituted in all cases. Whether it is carried out preoperatively or postoperatively will depend upon the general condition of the patient. If prolonged preoperative management is anticipated, then gastrostomy should be carried out as an early procedure to prevent regurgitation of gastric juices into the endobronchial tree. When marked gastric distention is present, decompression of the stomach with gastrostomy may enhance the care of the patient preoperatively and at the time of surgery.

Staging of the esophageal reconstruction is occasionally necessary. Holder[8] has found this particularly worthwhile in the poor risk, premature infant with the classic defect. The initial procedure consists of interruption of the fistula and creation of a gastrostomy. By this approach the pulmonary problem is controlled and the general condition of the child is improved to a point where total correction can be carried out. This is usually accomplished when the infant obtains a weight of five or five and a half pounds. Between the two procedures the child is under constant nursing care.

A staged procedure is also indicated when a long atretic segment of esophagus exists. This may be signalled by the lack of air in the stomach and gastrointestinal tract. A gastrostomy and a cervical esophagostomy are performed as the initial procedure. Later, at the age of two years or older, an esophagocoloplasty is accomplished, using the right half of the colon.

A single stage end-to-end anastomosis is accomplished in most infants with esophageal atresia and tracheo-esophageal fistula. We believe that defects should be approached transpleurally through the 4th or

5th intercostal space. With the azygos vein divided and the pleural mediastinum open, evaluation of the extent and type of anomaly is readily made. If a fistula exists this is divided and the opening in the respiratory tree is repaired with fine silk. The distal esophagus should be handled with extreme care because the blood supply to this segment is occasionally very precarious. The upper pouch is usually readily visualized; however, a small Robinson catheter may be passed into the upper esophagus by the anesthesiologist to enhance the visualization of the pouch. The pouch is isolated without too much trouble but one must be very careful not to injure the membranous portion of the trachea which is so closely adherent to it. With adequate visualization of the two ends of the esophagus an end-to-end anastomosis is carried out employing the technique of Haight. The anastomosis is accomplished with inert suture material, preferably of Mersilene. A small flap of mediastinal pleura is secured over the anastomotic site in an effort to prevent recurrence of the fistula. A chest catheter is left in the right chest for approximately three to four days.

The postoperative care of these infants is most important. In the full term vigorous child recovery is usually uneventful but in the complicated case recovery is much less predictable. There are certain complications which occur postoperatively such as leakage of the suture line, pneumothorax, recurrence of the tracheo-esophageal fistula and stricture formation which are managed when they occur. Complications such as pneumonia, electrolyte imbalance and infection are prevented before they occur. This is accomplished by instituting good nursing care and good postoperative management. The infants postoperatively are placed in an atmosphere of high humidity with constant turning and clearing of the trachea and pharynx of secretions. He is placed is a head up position and antibiotics are used. Gastrostomy feedings are begun, usually on the second or third day postoperatively and oral feedings are commenced between the seventh to the tenth day postoperatively following an esophageal examination with a water soluble contrast media. If another life threatening abnormality exists it is corrected when the condition of the child has improved to such a point where surgery can be undertaken without too much risk. This, however, will greatly depend upon the type anomaly that exists.

Reconstruction and rehabilitation of the infant with esophageal atresia is successful in approximately 90% of the robust uncomplicated cases. In the poor risk premature infant only 60% will survive the embarrassment. The most common cause of death in these infants is pulmonary complications.[8] Good preoperative and postoperative management of these infants is important in preventing this, but early recognition of this entity before complications have developed is even more important.

Nine infants with esophageal atresia with tracheo-esophageal fistula have been cared for by us. (Table I) All of the infants had the classic defect. There were five males and four females and all were white. A primary end-to-end anastomosis was accomplished in six of the infants while a staged procedure was carried out in three. The procedure was staged in two patients because of the general poor condition of the infant in one because of the wide separation of the esophageal ends. Five of the nine infants had associated anomalies. There were four deaths in this group.

TABLE I

SUMMARY OF NINE PATIENTS

Defect:	All had the classic defect
Sex:	4 female, 5 male (all white)
Repair:	6 primary end-to-end anastomosis 3 staged procedures (2—general condition poor) (1—wide separation of esophageal ends)
Survival:	4 dead, 5 living
Associated Anomalies:	5 with, 4 without

There was one infant who weighed two pounds eight ounces and survived. This child had the classic defect and in the initial procedure the fistula's tract was divided and a gastrostomy and cervical esophagostomy were fashioned. The infant has done very well since the initial procedure and at the present time weighs approximately 22 pounds. He is to undergo esophagoscoloplasty within the very near future as his final reconstruction.

In analyzing the etiology of the four

Table II

	Living (5)	Dead (4)
Weight	4 over 5 lbs. 3 oz. 1 2 lbs. 8 oz.	3 less than 5 lbs. 1 6 lbs. 5½ oz.
Time before Diagnosis	2 within 24 hours 3 over 64 hours (1 5 days)	1 40 hours 3 over 72 hours (1 4 days, 1 6 days)
Anastomosis	4 primary correction 1 staged correction	2 primary correction 2 staged correction
Associated Anomalies	2 (Tetrology) (Hydrocephalic)	3 (IVSD, Coarctation of Aorta, Hydronephrosis) (Duod. Atresia, Common duct stenosis) (Coarctation of Aorta, Patent Ductus)

deaths, the presence of prematurity, of associated anomalies and the fact that the diagnosis was made late is most important and is responsible for the majority of these deaths. (Table 2) The two former conditions are uncontrollable but the last mentioned problem can be avoided and any infant who presents with coughing, choking and cynanosis shortly after birth should be suspected as having esophageal atresia until proven otherwise. All means of diagnosing this problem should be exhausted before the child is considered free of esophageal atresia and if this is accomplished, the survival rate of this anomaly can be greatly improved.

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A New Antidepressant, Nortriptyline Hydrochloride

A Preliminary Report

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Nortriptyline hydrochloride has been shown to be an effective drug in the treatment of patients with anxiety-depression and functional complaints.

RECENTLY several drugs have been introduced for the treatment of depression alone or in association with anxiety and psychosomatic disturbances. This study is a report on the use of one of these antidepressants, nortriptyline hydrochloride,* by itself or in combination with other medications. Because of the marked interplay between emotions and physical illness, with one aggravating the other, an evaluation was made of nortriptyline hydrochloride in individuals with functional and/or organic complaints showing various degrees of severity.

The mode of action of nortriptyline hydrochloride as an antidepressant and tranquilizer has been considered as not due to any functional neurohormonal system.[1] It shows a wide spectrum of pharmacological properties, for it inhibits the activity of such diverse agents as histamine, 5-hydroxtryptamine, and acetylcholine. As with other tricyclic antidepressants, it antagonizes the sedative activity of tetrabenzine and the hypothermic effect of reserpine. Nortriptyline hydrochloride increases the pressor effect of norepinephrine but blocks the pressor response of phenethylamine. These and other studies suggest that nortriptyline hydrochloride interferes with the transport, release, and storage of catecholamines. It is the opinion of Himwich, et al.,[2] that these compounds have a specific effect in that they produce stimulation of the amygdala as well as increasing the sensitivity of other rhinencephalic structures. Bennett[3] feels that the improvement in gastro-intestinal function, reactivation of memory, and increased dream activity suggests such limbic brain involvement.

*AVENTYL HCl, nortriptyline hydrochloride, Lilly.

Methodology

Nortriptyline hydrochloride was evaluated in 202 patients seen in a large general medical practice. There were 144 females and 58 males with an age range from 17 to 86.

These subjects had many functional complaints such as anxiety, tension, headache, disinterest, irritability, restlessness, insomnia, hostility, and depression. In addition there were psychosomatic complaints referable primarily to the cardiovascular and gastro-intestinal systems. One hundred of these were diagnosed as having anxiety reaction, and 79 a depressive reaction. Thirty-five of the group had anxiety and/or depression associated with a cardiovascular diagnosis and 10 with a gastro-intestinal one. There was a scattering of patients with other diagnoses as seen in Table 1.

Individuals with physical disorders were

maintained on their current medication. All psychotropic agents such as sedatives, tranquilizers, and stimulants were discontinued. Patients were seen once weekly for evaluation and for adjustment of dose.

A patient was considered improved if both he and the physician agreed on the beneficial change. Slight improvement consisted of alleviation of some of the symptoms; marked improvement denoted the disappearance of the majority of complaints; and the patient was rated in complete remission if symptoms were no longer present. Because of the increased side-effects with 25 mg. q.i.d., and in some cases with 10 mg. q.i.d., the method of administration of nortriptyline hydrochloride was changed early in the study. Patients were started on a 10 mg. dose, both morning and evening, increasing by 10 mg. daily until a response was noted. At the risk of inducing side-effects, each patient received a typed list of side-effects which might occur. He was instructed, upon the development of a side-effect, to reduce the dosage until this adverse reaction had disappeared. The patient in this way was able to titrate his individual response to the medication. Such a procedure increases the incidence of side-effects for the adverse as well as beneficial response and is used as an end point for proper dosage. However, it also allows the patient to continue in therapy without spontaneously discontinuing medication or dropping out of the study. The effective dose range varied from 10 to 100 mg. daily. The 10 mg. size was most frequently used and 10 mg. t.i.d. seemed to be both an adequate initial and maintenance dose. Medication was maintained at a minimal dose until both physician and patient were of the opinion that it could be safely discontinued. About one-half of the group required less than four weeks medication. However, some were continued for longer than six months.

TABLE 1

DIAGNOSIS

	No. Patients
Anxiety reaction	100
Depressive reaction	79
Involutional psychotic reaction	6
Manic depressive reaction, depressed type	4
Miscellaneous	13
	202

TABLE 2

RESPONSE

	REMISSION						
SYMPTOM	Complete	Marked	Slight	None	Worse	Total Improved	Total Improved
Insomnia	10	47	13	16	5	70	77%
Anxiety	18	60	13	22	8	90	75%
Headache	14	46	10	21	5	70	73%
Disinterest	17	50	12	27	4	79	72%
Irritability	12	57	13	26	6	82	72%
Restlessness	15	58	16	27	8	89	72%
Tension	14	60	16	27	9	90	71%
Epigastric distress	9	29	12	16	5	50	70%
Hostility	5	32	7	17	4	44	68%
Depression	15	60	13	23	6	88	64%
Appetite loss	5	25	9	22	1	39	63%

One hundred and thirty-nine of the 202 patients (69 percent) showed over-all improvement.

Results

Nortriptyline hydrochloride produced noticeable improvement in 139 cases (69 percent); 39 were rated as unimproved; five were discontinued because symptoms were unchanged or became worse; and 18 because of side-effects so unpleasant that the patient did not wish to continue medication on a lower dose.

Table 2 illustrates the response in terms of symptomatic relief. Nortriptyline hy-

drochloride is shown to be an effective medication for the relief of symptoms associated with anxiety, depression, or psychosomatic complaints in two out of three patients treated. Of interest is its high order of efficacy in the treatment of insomnia, anxiety, headache, irritability, restlessness, tension, epigastric distress, hostility, and depression.

In patients showing marked apprehension to physical impairment, such as cardiac disease and arthritis, there was a heartening response to nortriptyline hydrochloride. Terminal cases maintained a less discouraged outlook after receiving nortriptyline hydrochloride. In two of these cases, one with chronic lymphatic leukemia and the other with inoperable bronchogenic carcinoma, the amount of morphine required for pain relief was decreased.

Improvement, after "individualization" of the dose, occurred within a week. The majority lost their presenting complaints, were more alert, and in general markedly improved. Many who had required psychiatric care, including electroshock therapy, for previous depressed episodes, responded remarkably well. Several compulsive eaters lost weight on medication when their tension and compulsive need for continual nibbling were reduced. Three diabetics were able to reduce their insulin intake while on nortriptyline hydrochloride. This was probably due to the decrease in anxiety and tension, for there is no indication that nortriptyline hcydrochloride itself is a hypoglycemic agent.[3]

Side-effects were reported by only 56 of the patients, or 28 percent. It can be seen from Table 3 that the most frequently mentioned side-effects were weakness, drowsiness, dryness of the mouth, confusional state, peculiar taste, excessive weight gain, epigastric distress, and constipation. Other side-effects were mentioned fewer than ten times (less than 5 percent); these included restlessness, sweating, tremulousness, blurred vision, headache, dizziness, fatigue, insomnia, irritability, paresthesia, obstipation, sore throat with glandular enlargement, nausea, and peculiar sensation. Many had had similar side-effects with previous medications. The confusional state did not attain psychotic proportions but was more characteristic of a hysterical disorganization.

One hundred and eleven patients received 34 other medications with nortriptyline hydrochloride for the treatment of their primary medical condition. In no instance was there evidence of additive or adversive effects from such combination therapy.

TABLE 3

SIDE-EFFECTS

	Mild	Severe	Total	Percent of Pts.
Weakness	20	13	33	16%
Drowsiness	21	9	30	15%
Dryness of mouth	9	13	22	11%
Confusional state	6	8	14	7%
Peculiar taste	6	5	11	5%
Excess weight gain	8	3	11	5%
Epigastric distress	3	7	10	5%
Constipation	4	6	10	5%

Fifty-six of the 202 patients (28 percent) reported side-effects.

Ninety-nine patients had periodic laboratory studies. There were no indications of any adverse or toxic effects in terms of hepatic, bone marrow, or renal function.

Summary

Two hundred and two patients with anxiety-depression and functional complaints received nortriptyline hydrochloride in an open study. Noticeable improvement was seen in 69 percent of these cases. Nortriptyline hydrochloride was shown to be an effective medication, particularly for relief of such symptoms as insomnia, anxiety, headaches, irritability, restlessness, tension, epigastric distress, hostility, and depression. Side-effects were reported by 28 percent of these patients, the most frequent being weakness, drowsiness, and dryness of the mouth. The beneficial results from this preliminary study would suggest that nortriptyline hydrochloride be further evalu-

ated in general medical practice for the alleviation of depression and anxiety when associated with psychosomatic disorders.

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A "Standby" Heart Pacemaker

Development of an electronic pacemaker that stands by when a patient's heart is working normally, but takes over when the beat falters, is reported in the May 30th Journal of the American Medical Association.

The standby pacemaker is designed to overcome one difficulty of electronic heart stimulators: the "competition" between the heart's regular pulse and the pulse induced by a pacemaker operating at another rate. This new pacemaker keeps a heart beating at a steady 69 beats a minute, give or take a beat or two. It goes into action only if the pulse becomes weak or irregular. The pacemaker shuts itself off when it senses that the heart is capable of maintaining its own rhythm. It also lets the heart take over when the body needs a faster pulse rate.

The preliminary report from four investigators at Beth Israel Hospital, Newark, N.J., tells of generally good results for 17 patients. Five persons have had standby pacers permanently implanted, and three of these have been working for up to four months. The one "partial failure" was in the first patient treated. The remaining 12 persons used external, temporary units for brief periods. One of these patients was paced without difficulty for three months. The others used external pacemakers for only a few days while awaiting implantation of other types of permanent units.

The pacemaker has a sensing circuit which "listens" for the closing of the heart's ventricles. It is this electrical impulse which produces the so-called R wave, the highest rising wave on an electro-cardiogram of a normal heart.

So long as these R-wave signals are strong and steady, the pacemaker does nothing. If the beat becomes weak or irregular, the unit goes into action.

So far, the patients who have received standby pacing have been victims of certain types of heart block, or Adams-Stokes disease.

The authors are Victor Parsonnet, M.D., I. Richard Zucker, M.D., Lawrence Gilbert, M.D., and George H. Myers, Ph.D., Sc.D.

Ventricular Rate of 300 in a Young Adult Due to 1:1 Auricular Flutter

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An unusual arrhythmia with a very rapid ventricular rate is reported.

THIS CASE is presented because of the unusual finding of a ventricular rate of approximately 300 in a young adult and the fact that auricular flutter with 1:1 relationship is an extremely unusual finding.

Mr. J. A. was a 34 year old man who was admitted to the Norfolk General Hospital on 4/21/62 because of shortness of breath of three weeks duration. He had had a chronic cough for a considerable period and for the past few weeks the shortness of breath had progressed to the point where he was unable to carry out his regular work. There had been no history of chills or fever and no history of chest pain. At the time he was seen in the doctor's office, he was inebriated and gave a history of drinking approximately one pint of liquor a day for an indefinite period.

In his past history there was no history of rheumatic fever or knowledge of heart disease. On physical examination, his blood pressure was 140/70. The principal physical findings centered around his heart and lungs. The chest was normal to percussion. There were coarse musical rales at both bases with expiratory wheezes. The heart did not appear to be enlarged on examination. The heart sounds were of fair quality. There were no murmurs. The apical rate was approximately 160 and regular. The clinical impression was tachycardia, cause undetermined, and it was felt that acute myocardial disease should be ruled out, such as active rheumatic carditis.

An electrocardiogram was carried out which showed auricular flutter with 2:1 block and the patient was then hospitalized.

Course in the Hospital: On hospitalization, it was found that his heart was enlarged, measuring 16 centimeters in transverse diameter compared with 30 centimeters transverse diameter of the chest. The vascular markings were increased and it was felt that there was cardiac enlargement with mild congestive failure. During the next twelve hours, he was given 1.2 mgms of Cedilanid and 0.5 mgms of Lanoxin. On 4/22/62, at approximately 9:45 A.M., he suddenly complained of chest pain, sweating, and appeared to be in circulatory collapse.

An electrocardiogram was taken which showed a tachycardia which was regular and approximately 280 to 300 in rate. It was felt that this might be ventricular tachycardia and it was decided to give intravenous quinidine. The blood pressure at this time was 80/60, and before the quinidine could be started, there were a few brief convulsive seizures. Over a period of 70 minutes, 1.6 grams of quinidine gluconate was given slowly by I.V. drip, and at the end of that time the rhythm suddenly changed to approximately 160 and again appeared to be predominantly 2:1 auricular flutter. He was to receive intramuscular Lanoxin daily and also quinidine gluconate, 200 mgms. I.M. every four hours. Over the next few days

Presented at the Virginia Sectional Meeting of the American College of Physicians, Williamsburg, February 20, 1965.

the rhythm reverted to auricular flutter with variable block, predominantly 2:1, but also showing 3 and 4:1 block. On 4/30/62, an electrocardiogram showed auricular fibrillation. Various attempts were made to convert the auricular fibrillation to normal rhythm with doses of quinidine, including 400 mgms. every two hours for five doses, but this was without effect. He was discharged from the hospital with auricular fibrillation and a slow ventricular response and a diagnosis was made of "non-specific myocarditis".

Laboratory studies showed a white count of 12,550 which descended to 8,050. Sedimentation rate was 10. Urine was negative. BUN was 17; Sodium 135; Potassium 5.2; Chloride 92; CO_2 25. The transaminase on 4/23 was 55, on 4/24 it was 90, on 4/25 it was 112, and on 4/27 it was 55. The VDRL was negative.

Discussion

This case was presented because of the unusual finding of a ventricular rate of 280 to 300. This certainly is an extremely rapid rate for an adult heart to show and in most reported cases, it has been most unusual for the ventricle to have a rate beyond 250. It seems also unusual that there was no intraventricular aberrant conduction with a rate of this degree, as is often seen with auricular fibrillation with rapid ventricular response.

Bellet reports 18 instances of 1:1 flutter where the ventricular rate ranged from 230 to 264 per minute. In most of these cases a serious problem existed with pronounced shock and, in these particular cases, parenteral digitalis was used to revert the rhythm to a greater degree of A-V block and later to a normal rhythm. Most of the cases studied by Dr. Bellet had shown significant heart disease.

In this particular case, shock was profound and was quickly removed when the rhythm was broken to a slower rate. It was interesting that this particular case did not demonstrate any clear-cut heart disease and one could interpret that the elevated trans-

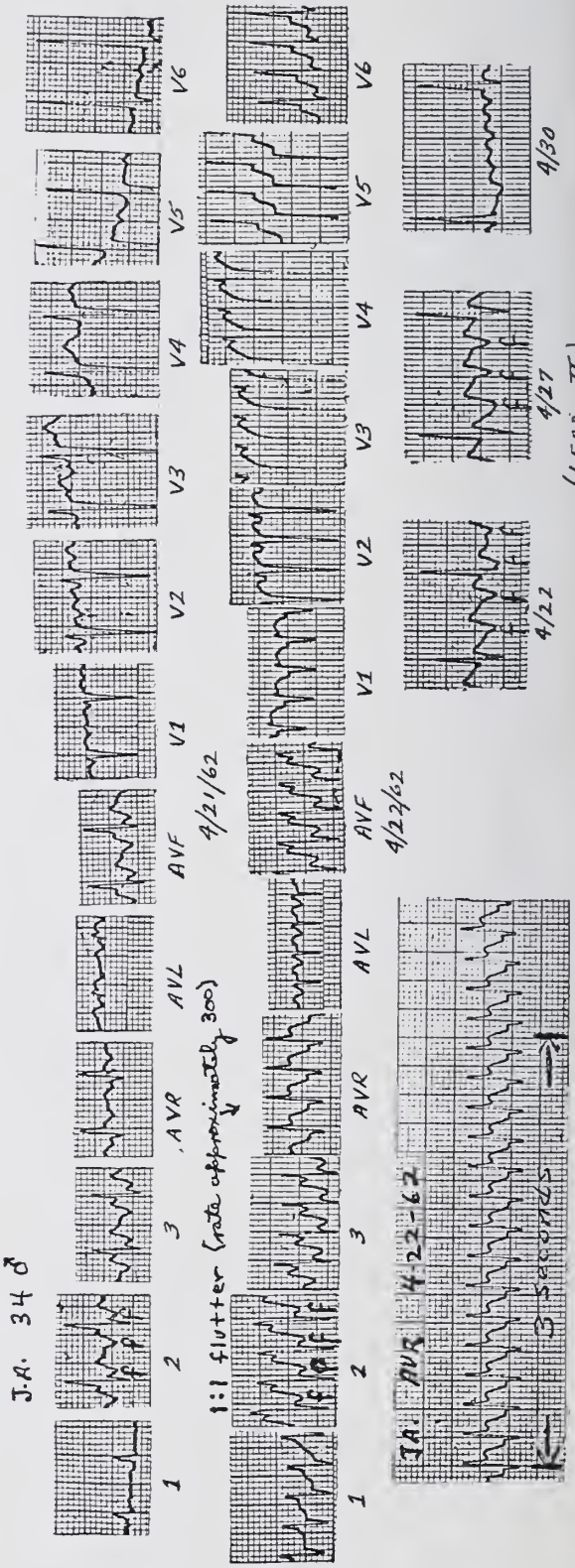


Fig. 1

aminase studies could have been related to either non-specific carditis, alcoholic myocardopathy, or possibly due to ischemic damage related to the rapid ventricular rate and poor coronary blood flow.

Summary

An unusual case of auricular flutter with 1:1 relationship in which the ventricular rate was approximately 300 is reported. This is an uncommon finding in the experience of the author and has not been noted in over 100,000 tracings during the past twelve years. A supraventricular response at the rate of 300 in an adult with survival has seldom been reported in the literature.

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Project Vietnam

The American Medical Association is taking complete responsibility for Project Vietnam, the program under which American physicians volunteer to provide medical care to South Vietnamese civilians. Under AMA auspices the program will be known as AMA Volunteers for Vietnam.

The AMA has signed a contract with the State Department's Agency for International Development (USAID), assuming complete responsibility for recruitment and the administration of the program.

USAID has asked the AMA to become more strongly involved in the program. The AMA had previously helped recruit physicians but administration was handled for USAID by the People-to-People Foundation, Inc.

Under the program, U.S. physicians volunteer to work in South Vietnamese civilian hospitals on a short-term basis, usually 60 days.

A newly appointed AMA Volunteers for Vietnam field director, Malcolm Phelps, M.D., El Reno, Okla., will be stationed in Saigon beginning July 1.

Dr. Phelps, a member of the AMA House of Delegates, will maintain liaison between volunteers and USAID, visit the 16 provincial hospitals where volunteers are stationed, and provide orientation for newly arrived volunteers. Especially needed in South Vietnam are orthopedic and plastic surgeons, radiologists, and chest physicians, in addition to a continuing need for internists and general practitioners.

Physicians interested in the program may write to AMA Volunteers for Vietnam, American Medical Association, 535 North Dearborn, Chicago, Ill. 60610.

Clinicopathological Conference . . . .

Sudden Death During Recovery Phase of Bacterial Endocarditis

Medical College of Virginia

Prepared and Edited by:
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JOHN H. MOON, M.D.

DISCUSSANTS:

Harry Walker, M.D., Professor, Former Acting Chairman, Department of Medicine.

R. Page Hudson, M.D., Jr., Assistant Professor, Department of Pathology.

Clinical History

The patient was a 44 year old white man who was admitted to the Medical College of Virginia on 1/18/64 because of "fever, chills and weight loss" of four weeks duration.

The onset of his illness was sudden with chilly sensations and muscular soreness and was thought to represent "flu". He was given antibiotics by his physician and improved over three to four days time only to develop recurrent fever of 103° on Christmas day. He felt nauseated at this time but did not vomit. He was hospitalized on the following day but no cause for the fever could be found. He received Aureomycin® on an empirical basis for a week with some fall in his temperature but it climbed promptly to 102° when the antibiotic was stopped. His appetite was good except when he had fever but he had lost 12-15 pounds during the illness.

He denied any genitourinary or cardiorespiratory symptoms. He had had no mouth ulcers, skin rashes, etc.

The review of systems was negative except as in the present illness.

The past medical history revealed a sensitivity to penicillin manifested by a pruritic rash 15 years ago.

Physical examination revealed a well-developed, fairly well nourished white male who appeared ill but who was in no acute distress. T. 100° (oral), P. 120, BP 130/80, R. 20. Fundiscopic examination revealed an exudate in the right superior temporal field. There was no significant enlargement of peripheral lymph nodes and no venous distention in the neck. The chest was symmetrical and the lungs were clear to percussion and auscultation. The heart was not enlarged. There was tachycardia but no murmurs were heard. The heart sounds were very distant. Abdominal examination revealed no organ enlargement. There was a hydrocele on the left. The fingers showed clubbing and questionable cyanosis. Peripheral pulses were normal and symmetrical.

A chest film was interpreted as being normal.

Laboratory data: Hb. 11.4 gm.%, WBC 10,400, 83% neutrophils, 14% lymphocytes 1% basophils and 2% monocytes. Urinalysis showed straw-colored clear acid urine. S.G. 1.018 with 1+ albuminuria. Microscopic examination: 0-2 WBC/HPF. VDRL nonreactive. Three LE preps were negative. Febrile agglutinations showed titers of typhoid 0 of 1:40, typhoid H 1:40 and Proteus 0x2 1:40. Three blood cultures were positive for staphylococcus aureus, coagulase positive, sensitive to penicillin, erythromycin, bacitracin, tetracycline, streptomycin and chloromycetin.

The patient was started on Chloromycetin® (2 gm. a day) on 1/20/64 before the blood cultures were reported. On 1/21/64 he developed an apical, systolic murmur which became louder over the next two days. The patient appeared critically ill and Staphcillin was added to his regimen. Two days later Vancomycin® was added. The murmur became less pronounced but after a week of therapy he suddenly spiked

fever again. Blood cultures at this time were negative. On 2/11/64 his treatment program was changed to Staphcillin® 8 gm. per day, penicillin 80 million units per day and prednisone 60 mgm. a day. Following these measures he became considerably less febrile.

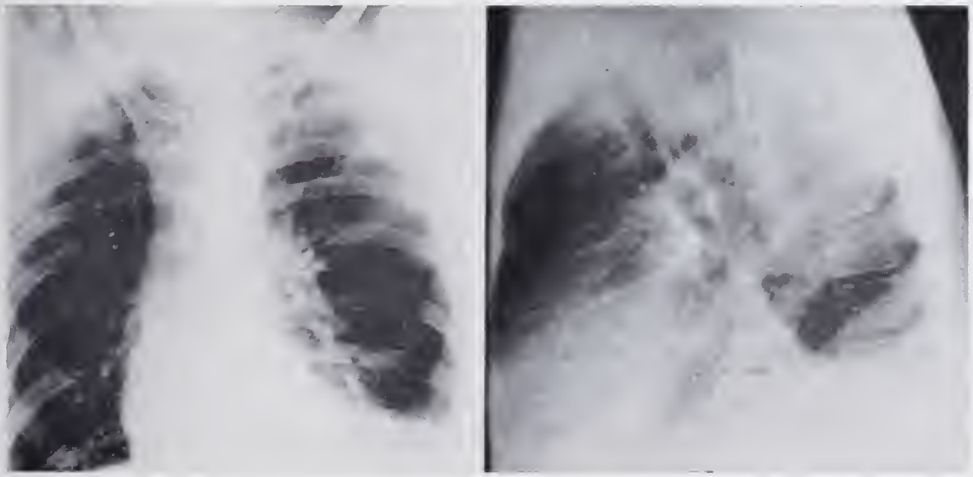
On 2/14/64 the patient complained of pain in the left lateral chest and fine moist rales were noted in the left lung base. X-ray and clinical impressions included infarct, pneumonitis or abscess. The pain and roentgenographic density soon disappeared. Therapy was not changed. The patient slowly but progressively appeared to improve for the next two or three weeks.

The patient was sitting up in bed at 6:00 p.m. on 3/3/64, feeding himself dinner, when he moaned, became dyspneic, collapsed and died. The final episode lasted not more than two minutes.

Discussion

Dr. Harry Walker:

The patient's illness began with signs and symptoms thought to represent influenza. He was given antibiotics and improved in three or four days time; however, his temperature fell. The fever returned promptly to 102° F. when the antibiotics were discontinued. When one sees a patient who has been sick for weeks and who has no localizing symptoms or signs, one has a limited number of diseases to consider. The subsequent course of his disease eliminated such things as brucellosis, malignancies (particularly lymphomas) and collagen vascular diseases. Although the diagnosis could not be made when the patient was first seen, one would think that bacterial endocarditis would explain all of this patient's difficulties. The specific nature of the disease was not apparent when he was first seen, but later a murmur developed which was pansystolic in timing and was apical in location. This together with fever of unexplained origin would certainly suggest that the patient had bacterial endocarditis. We formerly divided bacterial endocarditis into acute and subacute categories depending on whether the disease was primary or whether it was secondary to some known disease. We also laid great emphasis on whether or not the attack involved a previously damaged valve. Most of the subacute cases were due to Streptococcus viridans. This classification has been abandoned because it serves no useful purpose. If a patient has bacterial endocarditis, which lasts longer than six



Figs. 1a & 1b: AP and lateral roentgenograms February 13. The left basilar density is seem, simulating pneumonitis or infarct. This was atelectasis and pleural reaction secondary to splenic infarct. The hiatus hernia can also be seen.

fever recurred on Christmas day. He received additional antibiotics on an empirical basis for a week during which time his tem-

weeks and yet has no known primary source, it becomes apparent that the above classification is of little use. I think this patient had bacterial endocarditis due to a Streptococcus. I will ask Dr. Lester to show the chest films and I will take up various points in the protocol which suggest this diagnosis subsequent to his discussion.

Dr. Richard Lester:

The chest films showed clear lung fields and a heart of normal size. A vague mass could be seen in the lower mediastinum through the heart. I believe this is the area that was misinterpreted as an abscess. Examination of the lateral film reveals that the mass density is filled with air. I am sure that this represents a hiatus hernia and had nothing to do with the patient's problem. A subsequent chest film showed ground glass density (Fig. 1) in the left base which cleared rapidly on later films. (Fig. 2) This was thought to represent pneumonitis. An intravenous pyelogram was normal.



Fig. 2: The left basilar process seen in Fig. 1a and b has disappeared by February 22 (9 days). Through the heart, the hiatus hernia simulates an abscess.

Dr. Walker:

A patient who has fever of this duration, who developed a murmur and who has positive blood cultures has bacterial endocarditis until proved otherwise. The films are of no help in proving this diagnosis but they are not against such a diagnosis.

I will now take up various aspects of this disease and see how such a diagnosis fits in with the picture presented by this patient. First of all the patient had fever when he was first taken sick and when he came here. Almost all patients with bacterial endocarditis have fever although it may be absent for varying periods of time. The patient had the appearance of having an infection as do most patients who have this disease. The infection may be localized as with patients who have patent ductus arteriosus. Such patients may develop septic embolization to the lungs and they may present as having primary pulmonary disease which overshadows the systemic nature of the infection. Other major manifestations of bacterial endocarditis are the embolic which are frequently present. Those of you interested in the subject of embolization should read an article by our Dr. Elam Toone.[1] Embolization is, in fact, the second most common way in which bacterial endocarditis may present itself. Another point of importance is that people who have far advanced symptomatic heart disease do not usually develop bacterial endocarditis. As the infection progresses the heart disease may become very much worse but this is not true at the beginning of the course. Most of the patients who have this infection are unaware of having had heart disease in the past. So infection and fever are what one might expect of the majority of these patients.

The review of systems in this patient was negative which is also not unusual. Occasionally local disease which could contribute to bacteremia is overlooked. There was no history of recent dental work. Bacterial endocarditis due to Staphylococcus may be secondary to minor focal skin disease.

The past medical history revealed a sensitivity to penicillin manifested by a pruritic rash some 15 years ago. One has to accept the patient's interpretation under

these circumstances, but everything in medicine has to be weighed, good against bad. If a patient has a disease that is known to be fatal, a pruritic rash should not keep one from using a drug specific for the disease under consideration.

The patient had a temperature evaluation, tachycardia, and a normal blood pressure. The fundiscopic examination revealed a single exudate in the right superior temporal field but the shape of the exudate was not described. The exudates seen in bacterial endocarditis are said to be usually boat-shaped. There was no significant enlargement of the peripheral lymph nodes and I think in patients who have prolonged fever that this is a very important observation to make. There was no venous distention in the neck. The chest was symmetrical, the lungs were clear, the heart was not enlarged. Abdominal examination revealed no organ enlargement. The fingers showed no clubbing and I feel that this is pretty fast for clubbing to occur. The minimum time is usually about four weeks in bacterial endocarditis. Of course, there are few things in clinical medicine that are harder to determine accurately than whether or not a patient has early clubbing. I would guess that he was not cyanotic. The peripheral pulses were normal and symmetrical. The chest films have been noted.

He had an anemia of 11.4 gm. I believe that this is important; if you have been sick for a long time, say six months, and have a normal hemoglobin, the chances are that you do not have bacterial endocarditis. On the other hand, if you have a very low hemoglobin the chances are that it would have been fatal before it got to be very low. With severe anemia, of course, you can have all the findings which suggest bacterial endocarditis, with fever, splenic enlargement, murmurs and occasionally petechia. The white count of 10,400 is certainly consistent with bacterial endocarditis since low counts, high counts or normal counts have all been recorded. The urinalysis in bacterial endocarditis is sometimes of little help in the diagnosis and this is true in this patient. If repeated urinalyses are done, microscopic hematuria is frequently present or significant pyuria occurs. This is a reflection of the fact that in bacterial endocarditis one may have emboli to the renal artery, multiple abscesses of the kidney or chronic glomerulonephritis which can either be patchy or diffuse. The next point is the three positive blood cultures. In bacterial endocarditis, negative blood cultures occur in about 15% of all patients. The converse is true also in that a positive blood culture may be obtained and the patient may not have the disease. One of my good friends had bacterial endocarditis following rheumatic heart disease. He had fever and a positive blood culture. He was treated with a streptococcus vaccine, which we think now is useless, and got well. The probability is that he had a bad tooth and simply ate a piece of beef steak that was tough and this gave a positive blood culture. This is seen occasionally. About 15 to 20% of people with diseased teeth will have positive blood cultures for about two hours after chewing on hard material. This merely points out the fact that blood cultures are not diagnostic. Another pertinent point to remember about blood cultures is that if repeated cultures are negative the chances are that all of them are going to be negative regardless of how many are taken. If they are positive, the chances are that most of them will be positive at first, so it isn't necessary to exsanguinate the patient simply because you think he had bacterial endocarditis, because cultures are usually positive or negative at first. The organism obtained in this patient was sensitive to everything tested against but what is done in the laboratory and what is done in the human body are two different situations. One sees patients whose organisms are sensitive to drugs but who proceed to die from their disease because of failure of the antibiotics in vivo, so it is well to remember that sensitivity

tests are not infallible. It is the best we have, however, and should be used in all cases. The idea that changing murmurs are important in this disease has become widespread. This is not valid. If you wait for a murmur to change you have waited too long. In many patients with bacterial endocarditis the murmur will change and will get better or worse. This is not really important because in the last analysis murmurs are related to time, to pressure and to flow and a murmur may become less pronounced because the flow is less pronounced; rather than getting better, the patient may be getting worse. Blood cultures at this time were negative and his treatment was changed to Staphcillin.® Penicillin was also given in huge doses, benemid was not added and probably is of no value with massive doses of penicillin. Prednisone was added to his regimen because of his alleged sensitivity to penicillin. At this point we are relatively satisfied with the diagnosis and treatment.

Then at 6 p.m., March 3, 1964, the patient suddenly became quite dyspneic and by the time the intern arrived at 6:02 the patient had died. Why he died is unknown but in view of my feeling that he had bacterial endocarditis, I presume it was some complication of this disease. Pulmonary embolization is possible, perhaps the chest pain was an infarct to go along with this diagnosis. The rapidity with which he died is against pulmonary embolism. An embolism to the brain is also usually associated with longer survival than two minutes. An embolism to the coronary artery is possible as would be a myocardial abscess with rupture. There is no clue to suggest either of these diagnoses. A rupture of the chordae tendineae or papillary muscles seems improbable and they, too, do not die nearly so quickly. A mycotic aneurysm of a major artery is a distinct possibility, as is a ruptured spleen. Involvement of the splenic or renal artery or perhaps even mesenteric might have produced the pain, if that was a real clue. Arrhythmias can cause sudden death but are uncommon in patients with bacterial endocarditis. I believe this patient died of rupture of a major artery or of the heart, more likely the former. In either case it was related to his bacterial endocarditis.

Dr. Richard Kirkland:

When the patient came to the hospital there was a history of some urinary tract infection and the patient's local physician had obtained a Staphylococcus in one urine culture. We were suspicious of a staphylococcal infection and for this reason started him on Chloromycetin.® This was done before the positive cultures were reported but after several blood cultures had been drawn and appeared to be acutely ill with a temperature of 105. The allergy to penicillin was thought to be pretty definite and when he was started on penicillin, adrenalin and cortisone were kept in readiness. Nothing untoward occurred until a week after the penicillin had been started when he had an allergic rash. Prednisone was added. He appeared to be getting well and it was a shock to us that he died so suddenly.

Clinical Diagnosis:

1. *Bacterial endocarditis, healing*
2. *Penicillin hypersensitivity, mild*
3. *Pneumonitis, left base, resolving*
4. *? embolism to pulmonary artery*
5. *? embolism to coronary artery*
6. *? embolism to cerebral artery*
7. *Hiatus hernia*

Dr. Harry Walker's Diagnosis:

1. *Bacterial endocarditis*
2. *? rupture of mycotic aneurysm of major artery (splenic, mesenteric renal)*
3. *? rupture of heart*
4. *Hiatus hernia*

Dr. Page Hudson:

Today we have interesting findings to correlate with Dr. Walker's analysis of the case.

External examination revealed mild clubbing of the terminal phalanges as the only unusual finding.

On opening the chest there was approximately 50 cc. of clear amber fluid in each pleural cavity. The lungs grossly were unremarkable.

The heart was of normal size and weighed 300 gm. The aortic, pulmonic and tricuspid valves were unremarkable. On the anterior cusps of the mitral valve were two large vegetations guarding a small perforation. The heart showed no evidence of pre-existing rheumatic disease or congenital defects.

There was 2500 cc. of fresh blood and clots in the abdominal cavity. This had come from the spleen which showed an 8 cm. fresh laceration extending from the dome deep into the parenchyma and down to the hilum. Adjacent to the laceration, and partly beneath a fresh subcapsular hematoma, was a large, sharply demarcated yellow infarct extending to the hilum of the spleen.

The prosector, Dr. G. E. Smith, Jr., found half buried in the splenic parenchyma a dilatation of one of the primary branches of the splenic artery. This was a mycotic aneurysm. It had ruptured into the parenchyma of the spleen and the spleen had "exploded". (Fig. 4) Sections of the vessels revealed an inflammatory cell reaction and connective tissue proliferation replacing much of the arterial wall. This organization extended through the embolus. The false wall had given way despite the abundant fibrous tissue reaction and the rapidly fatal hemorrhage ensued. The splenic infarct was at least two weeks old.

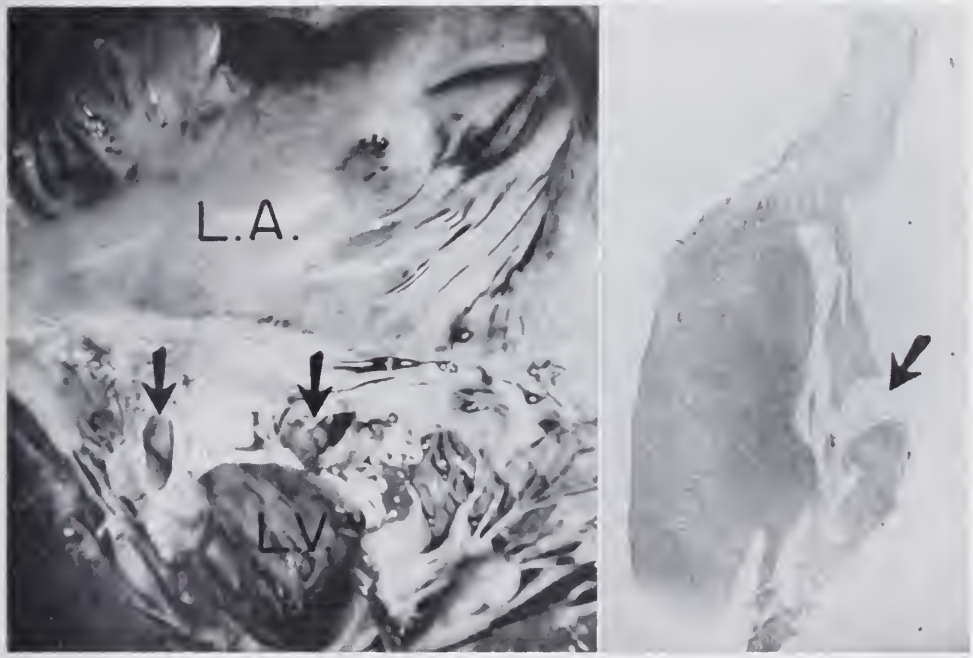


Fig. 3: Heart: "LA" is left atrium, "LV" the left ventricle. Note the perforations of the mitral valves (arrows). Adjacent to the perforation on the right is a large vegetation. The inset is a microscopic section including mitral valve and perforation (arrow).

The kidneys, on gross examination, were unremarkable except for a small (0.5 cm.) healing infarct in the lower pole of the left kidney. Microscopically, there was no embolic glomerulonephritis but a patchy, chronic active pyelonephritis was present. The lungs were normal except for two stringy adhesions between parietal and visceral pleura at the left lung base. Cultures and Gram stains from autopsy material revealed no organisms in the vegetations, aneurysm, spleen or heart blood. This com-

plemented the clinical data which indicated that the bacterial infections had been cured and the patient was recovering.

he had left flank and shoulder pain. This is suggestive that the splenic embolus occurred at this time. Two or three days later

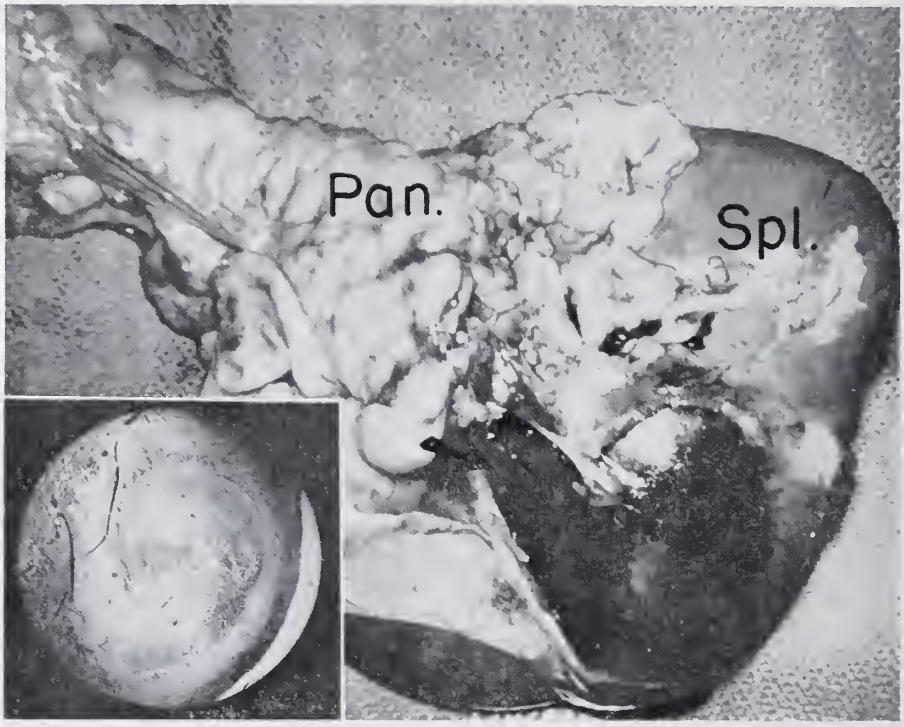


Fig. 4: The arrow indicates the large hemorrhagic cleft in the spleen, adjacent to the infarct, through which the splenic artery ruptured.
The inset is an enlargement of a cross section of the artery, showing thrombus, inflammation, destruction and rupture of the vessel's wall.

In brief, this man had bacterial endocarditis, threw off a septic embolus to the splenic artery and developed a mycotic aneurysm which then ruptured. There are 15 remarkably similar cases in the literature, not to mention some of the same general type. Of the 16 cases (including this one) 13 had previous cardiac disease, congenital or rheumatic, two did not and in two the data is insufficient. Seven had palpable spleens, three did not, about six we don't know. Of the 16 patients at least 13 had left upper quadrant pain—a very suggestive symptom.

The infarct in our case today appeared to be two-to-three weeks old. Interestingly, a review of the clinical chart revealed that three weeks before the patient expired, he had complained of pain in the left side of the chest to his nurse. The attending physicians recorded later the same day that the roentgenographic density in the left lower lobe was reported. This presumably represented pleural reaction and atelectasis in the left lower lobe. (Fig. 1) This process has been seen in several of the previously reported cases[2] and is, we think, an important clinical feature in this situation.[6] The left pleural reaction and the atelectasis were misdiagnosed clinically in those other cases as left lower lobe pneumonia or pulmonary infarction. Of the 16 cases, five had similar x-ray findings. One definitely did not; in 10 there is insufficient information or no x-rays were taken.

The time from the onset of the left upper quadrant pain to splenic rupture in the reported cases varied from two to six weeks. In this case it was three weeks. Of the same 16 cases, there were eight in which the time between rupture and death was less than one hour, in four cases from one

to 24 hours and four cases in which the time was unknown. The cause of death was hemorrhage in 12, peritonitis from spillage of the infected infarcts in three. One died of cardiac failure with only minimal hemorrhage. We should note that two were surgically treated—successfully.[3,5]

There are, of course, a variety of causes of splenic rupture such as trauma, infectious diseases, blood dyscrasias, storage diseases and abscesses.[4] Three of the previously mentioned 16 cases had abscesses which were infected infarcts. Splenic rupture in pregnancy or parturition is a fairly well recognized but poorly understood phenomenon. Vascular tumors can rupture. Amyloidosis leading to splenic rupture is common—in white Peking ducks![9]

Rupture of a mycotic aneurysm is a relatively common complication of bacterial endocarditis[7,8] but is a rare cause of splenic rupture. Signs and symptoms of the developing lesion can be subtle but are usually present. Hence, in some cases the fatal hemorrhage can be anticipated and either prevented or treated.

Final Anatomical Diagnosis:

1. *Bacterial endocarditis, mitral valve (Staphylococcus aureus, coagulase positive)*
2. *Mycotic aneurysm of splenic artery branch*
3. *Exsanguination following rupture of mycotic aneurysm into spleen with rupture of spleen*

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The Tenacles of Government Control

The new drug regulations were created because of certain problems which needed correcting. In an effort to be precise and encompassing, the wording was made all-inclusive. When interpretation and enforcement subsequently followed, it has been found now that not only was the total drug industry brought under complete government control, but also the whole of medicine. This means not only one phase of medicine, but the whole spirit of medicine has been made captive.—James H. Johnson, M.D., in *Annals of Allergy* (24:88), February 1966.

Stick (Strip) and Tablet Laboratory Tests

In recent years, the "tablet" and "stick" tests as an aid in laboratory diagnosis have become available and their increasing popularity leads to this brief discussion of their usefulness. Such tests have been developed to increase simplicity and speed of performance, without sacrificing specificity. The latter remains the *sine qua non.*

ing of one or more constituents of the urine simultaneously. The principle of the method involves the use of an impregnated paper strip or tablet, containing one or more reagents depending upon the specific test involved. Upon the development of a color, a comparison can be made with a known range of colors corresponding to a known range of values.

A number of diagnostic test strips for

TABLE 4—Stick ("Strip") and Tablet Tests*

	Urine							Feces	Blood	
	Acetone	Bile	Blood	pH	PKU	Protein	Sugar	Blood	BUN	Sugar
Strip										
Albustix						X				
Clinistix							glucose			
Hemastix			X							
Ketostix	X									
Phenistix					X					
Urostix						X	glucose			
Combistix				X		X	glucose			
Hemacombistix			X	X		X	glucose			
Labstix	X		X	X		X	glucose			
Dextrostix										X
Urograph									X	
Tablet										
Bumintest						X				
Albutest						rough quantitative				
Clinitest							rough quantitative non-specific			
Occultest			X							
Hematest								X		
Ictotest		X								
Dextrotest										X

*All tests materials manufactured by Ames Company, Inc., Elkhart, Indiana, with the exception of Urograph (Warner Chilcott Laboratories Division, Morris Plains, New Jersey).

Most of the methods that have been developed are useful in the area of urinalysis and "stick" tests are available for the test- either single or combined determinations have been manufactured by Ames Company, Inc., Elkhart, Indiana. The individ-

ual constituent test for glucose is Clinistix®. This test measures glucose enzymatically and, by its use, one may distinguish glucose from the other reducing sugars, such as lactose, galactose and pentose. The test for sugar in the combination strip tests is based on the same principle. The strip test for blood is Hemastix®. This test is very sensitive and has its greatest value when microscopic hematuria or hemoglobinuria is suspected. The strip test for acetone is Ketostix®. This strip test can be used to test for ketone bodies, not only in the urine, but in plasma or serum, as well; its laboratory diagnostic value is obvious. The strip test for protein is the Albustix®. The strip test for phenylketones is Phenistix®. Phenylketonuria (PKU) in the newborn must not be overlooked, and such a test makes survey investigations for this metabolic defect a simple matter.

Combined testing may be accomplished using any of the following materials: Urostix® (protein, sugar), Combistix® (pH, protein, sugar), Hemacombistix® (pH, protein, sugar and blood), and the most recently introduced, Labstix® (pH, protein, sugar, acetone and blood). The sticks are simple to use and *are reliable as screening tests.* The advantage of testing for as many constituents as possible at one time is obvious.

Tablet tests made their appearance in laboratory medicine before the strip tests and the ones discussed are also products of Ames Company, Inc.

The Bumintest® is used for the demonstration of proteinuria, while the Albutest® is for the rough quantitation of urine protein. The Acetest® tablet is for the demonstration of acetone in the urine.

The Clinitest® tablet is for the rough quantitation of reducing sugars in the urine. The use of both Clinitest and Clinistix could demonstrate the presence or absence of reducing sugars and the identification of true glycosuria. Urine from newborn infants should be tested for reducing substances to avoid missing the galactosemias.

The tablet test for the detection of blood in urine is the Occultest® while the tablet test for the detection of occult blood in feces is Hematest®. The evaluation of this test was undertaken by us in normal individuals as well as patients, and the finding of 30% "positive" results in normal individuals leads us to conclude that the test is a little oversensitive for the detection of occult blood in feces and the results obtained using this method should be interpreted with care. In short, negative results are significant; weakly positive or positive results should be further evaluated for correctness of result. Strongly positive results are easily correlated with the tarry color of the stool, and perhaps, obvious blood flecks in the specimen.

The Ictotest® is a tablet test for the detection of bilirubinuria, and is claimed by the manufacturer to detect very small amounts (0.05 to 0.1 per 100 ml.) of bilirubin in the urine and to be of invaluable aid in the detection of early hepatitis. A comparison of this test with other tests for the detection of bilirubin in urine has not been undertaken as yet.

Strip or stick tests for the detection of plasma or serum constitutents are not as numerous as those available for urinalysis. Available are the stick test, Dextrostix®, and tablet form, Dextrotest® (Ames), for the determination of blood sugar and Urograph® (Warner Chilcott) for the determination of blood urea levels. Since the results obtained using these tests are only roughly quantitative and are not as easily interpreted, it is our opinion that they should be used in the laboratory as screening tests only, not on the ward nor by non-laboratory personnel who perform these tests infrequently.

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Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

New Food Service Regulations

The Virginia State Board of Health has recently adopted a very broad and comprehensive set of rules and regulations which are to apply at each of the 11,000 public eating and drinking establishments in Virginia licensed by the State Health Department. The authority for this updated Code is given in Title 35, Chapter 3, Section 35-28 of the Code of Virginia which is the enabling act of the State Restaurant Law.

This new set of rules and regulations represents the first over-all revision of the Restaurant Code since the original enactment of the State Restaurant Law in 1948.

There are two general purposes served by the adoption of the rules and regulations. The first is to provide the State Department of Health with an effective legal instrument to protect the health and safety of all persons who may consume food or beverage in any public eating or drinking establishment.

The second purpose is to provide a vehicle whereby the State food program is enabled to move into conformity with national standards. This was accomplished by tailoring the Code from the recommended U. S. Public Health Service Code. The food service industry has noted for many years that public health departments at all levels of government have lacked standard and uniform food codes, and the industry has always given strong endorsement to any code based on nationally recognized standards.

Every effort has been made to make the rules and regulations an educational rather than an enforcement document. Emphasis is placed on the concept that the restaurant industry and health authorities have a mutual responsibility to protect the public's health.

There are several reasons why this cooperative relationship exists. Several years before the adoption of the rules and regulations a committee representing the Virginia Restaurant Association worked on the proposed code with representatives of the State Health Department, independent county health departments and city health departments. Each detail of the proposed code was thoroughly examined in order to assure that all who had vested interests might have an opportunity to be represented.

There was agreement that an objective evaluation procedure should be inaugurated to assure that all local health departments would maintain at least the minimum degrees of compliance with the new regulations. This evaluation has now been adopted into official policy and is expected to be done in each locality at least once each two years. One prime benefit of conducting this rating procedure is to promote a uniform enforcement which is so vital to any successful food program. The evaluation officials who are conducting these food survey ratings are employees of the State Department of Health. However, they must be certified by the U. S. Public Health Service for demonstrating proficiencies in interpreting the contents of the recommended U. S. Public Health Service Ordinance and Code.

The format of the revised regulations is an attempt to establish a more realistic order of priority based on public health significance. The first priority is given to food—its source, its preparation, and its protection throughout.

The second order of priority is given to personnel. Special emphasis is placed on the protection and training of personnel who come in direct contact with food and drink.

A third order of priority is given to food service and equipment and utensils. The fourth priority is given to sanitary facilities and controls, such as a pure water supply and approved sewage disposal systems. The fifth priority is on the physical facilities and premises.

A great deal of consideration was given to research and advancements in food technology and defining many products which heretofore had been vaguely described. For instance, the old Code used terms such as "readily prepared foods" with no additional interpretative material. The new Code uses such terms as "potentially hazardous foods" which connotes any food product which may be easily subject to toxigenic microorganisms.

The requirements for refrigeration temperatures were lowered from 50 F. to 45 F. in general service refrigeration. Public health authorities have been aware for years that the previous 50 F. requirement did not afford adequate protection for the preservation of food and to retard the production of food poisoning organisms.

Due to trends and advancements in processing techniques, transportation and refrigeration, more and more prepared and semi-prepared foods are moving through a number of different jurisdictions. This is giving rise to the centralized commissary type of operation which compounds the necessity for nation-wide accepted standards of a uniform food Code. This trend will instill a mutual trust and a built-in acceptance among neighboring states, counties, and cities. Already twenty-two states have adopted essentially the recommended Code of the 1962 Ordinance and Code of the U. S. Public Health Service, and it is thought that in time all of the states will adopt essentially the same. This will be a milestone in the constant battle to protect the health and safety of the eating-out public.

Second Look at New Drug Laws?

Many economists are convinced that the American system of patents and trademarks and brand names has been a vital factor in the great progress of the United States and its leadership in establishing a standard of living superior to that anywhere else in the world. The factors involved include not only this system but also the right to advertise, the right to disseminate information, and the right to legitimate pride in distributing as widely as possible the benefits of new inventions and discoveries. How much time must pass before the ultimate effects of the now (drug) legislation become apparent is difficult to predict. The effects are only beginning to be felt. Perhaps the time is near when the legislators will have to take a second look.—Morris Fishbein, M.D., in *Postgraduate Medicine* (39:205-206), February 1966.

Mental Health . . . .

CHARLES E. NIMMO, JR., MSSW

After-Care from a Hospital Point of View

Historically speaking, mental hospitals have been interested in and concerned about after-care for their patients over a rather long period of time. Well over a century ago—around 1829—a program of after-care for mentally ill patients was introduced by Dr. Lindpainter, the director of the Eberbach Asylum in Germany. He organized a group of lay people who visited patients in their homes and acted as a liaison between the patient and the hospital.

In 1841, the "Societe of Patronage" assumed similar responsibilities in France and its prototype in England, the "Guild of Friends of the Infirm in Mind" started functioning in 1871.

This early activity was significant for several reasons. It was probably the first form of community mental health service and it was an activity that depended largely on the interest and enthusiasm of volunteers.

The idea of after-care then crossed the Atlantic and as might be expected, in our finest tradition, a committee was formed. This committee was set up by the American Medical Psychological Association in 1890 to study the matter. Not until 14 years later, in 1904, was any direct work begun. At that time, Dr. Adolph Meyer, who was then at the Manhattan State Hospital in New York, interested his wife in visiting patients in the hospital and their relatives in the community.

Several years later, in 1906, the first professional social worker was employed in an institution for the mentally ill. She was Miss E. H. Horton, a graduate of the New York School of Philanthropy. (Now the New York School of Social Work.)

One of her major responsibilities was to give after-care service through contacts with patients, relatives and various community agencies.

This event, incidentally, was another important milestone since in effect it brought about the marriage of psychiatry and social work.

Following Miss Horton's pioneering efforts, both social work and after-care programs began to develop and spread across the country as other mental hospitals recognized the need for this kind of service.

There was no set pattern for providing after-care since the various states utilized a variety of methods. Some states have depended almost entirely upon public health nurses and public health facilities. In other states, various community agencies such as local welfare departments or mental hygiene clinics have provided this care. California, New Jersey and New York have met the need in still another way. In these states, the after-care service was rendered either directly by the hospital or through clinics established specifically for that purpose.

Virginia has had a very flexible program using almost all of the above methods, depending upon the particular hospital involved. The method used has depended upon a variety of factors not the least of which are geography, size of staff and time available.

Since the mid 1950's, after-care service

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

This paper was presented at the State Social Workers Meeting on Aftercare, May 9, 1966, in Richmond.

has greatly increased in the state. I think it is significant that this expansion of service has closely paralleled the introduction and increased use of drugs in the treatment of the mentally ill. I do not want to minimize the other advanced methods of treatment such as individual and group therapy, family therapy, milieu therapy and remotivation programs, but in reality it was drug therapy that made it possible for hospitals to return large number of patients to the community.

Another important factor has been the increase in the number of hospital admissions. As our population steadily increases there are more people who need hospitalization. Fifteen years ago the admission rate at Eastern State Hospital averaged about 75 per month. Now it averages at least 150 per month and has been as high as 199. Faced with this great influx, hospitals must do all they can for the patient as quickly as possible and get him back to the community.

The release of more older, chronic patients and the more rapid return to the community of new patients has made after-care more imperative than ever.

At this point, perhaps we should pause and ask what is after-care? I suppose there are many different definitions but one of the simplest states that after-care is the provision of medical, psychological, social and sometimes financial support for those individuals who are released from mental hospitals. I might add that the family often needs support as much as the patient.

These four areas I have mentioned probably cover most of the major problems that a patient will face upon his return to the community. It would include such things as counseling with the patient about his fears and anxieties relating to his illness and hospitalization, interpretation to the family of the patient's illness and behavior, casework with patients and relatives regarding marital and family conflicts, a discussion of the constructive use of leisure time and the availability of recreational facilities, assistance in finding employment, inquiry into the patient's physical health and possible need for treatment of physical ailments, regulating the patient's medication and, if necessary, helping him to obtain it, referral to appropriate community agencies that may be of help to the patient or his family such as the local welfare department if financial aid is needed, and in some cases assistance to the patient and family if rehospitalization should become necessary.

This is just a cross section of the concerns and problems that patients and families encounter during the critical period of readjustment and convalescence. The help or lack of help that the patient receives after his return home will largely determine whether he will be rehabilitated and resume a useful place in society or whether he will become just another readmission statistic.

Studies that have been made tend to confirm this. In 1958 and 1959, Virginia along with four other states participated in a research project to determine the effectiveness of after-care programs. Two groups of patients were followed over a period of a year. One group was seen periodically in after-care, while a similar group did not receive any follow-up help. Only about 15% of the after care-group returned to the hospital but approximately 35% of the control group had to be rehospitalized. In other words this study indicated that an organized after-care program cut readmissions in half.

While I want to emphasize the positive findings of this study, I think it is only fair to point out two other facts.

First, even with the best organized and most efficient after-care program, some patients will have to return to the hospital. We can accept this fact without becoming unduly upset when we remember that in the realm of physical medicine, patients relapse every day. Also we must remember that our success with psychiatric patients cannot be measured strictly in terms of total and complete recovery. If a certain

chronic schizophrenic patient leaves the hospital after five years and makes a reasonable good adjustment in the community for six to eight months before coming back, this may actually represent a successful achievement for that particular patient although statistically speaking he might appear to be a failure. I might add that this same patient might have stayed out only two months without the support of after-care personnel. Also the positive help that he and his family received in arranging for his return to the hospital may pave the way for his later return home for another extended visit.

The other fact I would like to point out from the study is that some patients can and do remain out of the hospital successfully without receiving direct and specific after-care help. As a social worker, this does not help my ego very much to know that there are some individuals who seem able to adjust pretty well without the wisdom, knowledge, understanding and advice that I could so expertly give them. On the other hand, since our caseloads are increasing daily anyway, I suppose we should rejoice that there are a few "hearty souls" who can manage without our help. Let me emphasize, however, that this particular group should not be completely ignored. Although every patient may not have to be initially referred for after-care or want to be referred when he leaves the hospital, there still should be professional after-care service available in his community if and when he does need it—and he and his family should know that this service *is* available and *where* it is available.

Today, we are standing on the threshold of a new era in the advancement of services for our mentally ill patients in Virginia—especially for those who are hospitalized. Two significant developments are taking place. The first is in the field of Vocational Rehabilitation. Over the past 15 years, I have seen, from the vantage point of the hospital, the Vocational Rehabilitation Service move from the point where they, only with great reluctance, would undertake work with a psychiatric patient to the present moment where they are willing, eager and able to extend their services to this large group of handicapped individuals. As you know the ultimate plan is to establish Vocational Rehabilitation units in the various mental hospitals. This expanded service will be an important addition to the total after-care effort. Too many times, we have seen patients return to the hospital because of frustrations and problems associated with employment or lack of employment. With more and better vocational counseling, job training and expert job placement, the better chance our patients will have of maintaining themselves outside the hospital.

The second important development, of course, is the planned expansion of after care-service across the entire state. It is gratifying to know that there will be available additional professional personnel to render this service and to know that more of our patients will have access to such a vital community resource.

In closing, let me add that the hospital still has an important role and responsibility in this program. We cannot just sit back and say to the community, "This is your red wagon, you pull it." There must be a close partnership and working relationship between the hospital and the various community agencies engaged in this activity. We, at the hospital, must see that the patient and his family are properly and adequately informed about after-care. We must do our best to see that the patient is motivated to accept after-care when he is referred to a community agency. Our referrals must be prompt and they must contain the necessary information so the after-care staff can do the job expected of them. Finally, there should be free and easy communication between the hospital and the community with periodic consultation between personnel.

Expansion of services will present some problems and headaches for all concerned but these too shall pass away. The impor-

tant thing is that we are getting closer to that point where psychiatric hospitalization is not just an isolated and traumatic incident in the life of the patient and his family but actually a planned phase of total treatment. There will be a full circle of service—before, during, and after hospitalization.

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Ulcers on Rise in Cold Weather

Peptic ulcer has a seasonal incidence, rising in the six months from October through March and dropping significantly from April through September.

To confirm a frequently mentioned characteristic of peptic ulcer disease, Dr. George C. Gardiner and associates studied the monthly incidence of bleeding peptic ulcer in 165 patients treated in Philadelphia over a five-year period. Seventy cases occurred from April through September and 95 from October through March, confirming similar findings from eight other studies in United States cities with similar climatic conditions.

Reports from the Southern Hemisphere, including South Australia and Latin America, where seasons are reversed, indicate that it is climate that influences the seasonal variation. In Argentina, a study of 85 cases of peptic ulcer showed 62 occurred in autumn and winter and 23 in spring and summer.

"The exact mechanism whereby cold weather appears to favor the development of ulcer bleeding is unknown. The increased incidence of respiratory infections during the winter raises the possibility that the use of salicylate-containing compounds may have some influence," the investigators said.

Adrenal activity, which is relatively high during the winter months with reversal beginning in the spring, also may be of possible significance in relation to ulcer incidence in cold weather.—*Am. J. Gastroenterology*, January, pp. 22-28. (Schering Science Bulletin)

The Medical Society of Virginia . . . .

Legislative Committee

Your Committee reports on the extremely active 1966 session of the Virginia General Assembly. In addition to the legislative matters of major importance to the state at large, such as the sales tax, the legislative members of this Committee dealt with well over one hundred items of some interest to the medical profession. Over one-half of these bills or resolutions were approved. We would call your attention to those sections which deal with the changes to the Medical Practice Act and the State Pharmacy Code, the licensure of psychologists, the child abuse legislation in which the Society has taken an active interest, and also the sections dealing with alcoholism, the drunken driver, and phenylketonuria testing. We do not think the report will give you any idea of the amount of attention required by these legislative matters and indeed it is not designed to do so, but rather to acquaint you with the end result of the General Assembly's work. The report, which sets this out in some detail as it affects matters of general interest to the medical profession, is as follows:

Board of Medical Examiners

At the instance of the Board of Medical Examiners and with the approval and support of the Society, several changes were made in that part of the Medical Practice Act having to do with the Board (HB 390, Ch 166). Under present law the Board can admit to examination graduates of foreign medical schools if satisfied that such candidates' qualifications for practice are equal to those required of other candidates for admission. This right was enlarged to permit the admission to examination of graduates of non-accredited medical schools in the United States and Canada provided their graduation was prior to the year 1944 (HB 242, Ch 98).

The composition of the Board was changed by reducing the chiropractic members from two to one. In addition to the power to suspend or revoke licenses, the Board was authorized to censure or reprimand offenders, or to place them on probation. The definition of unprofessional conduct was enlarged, and mental or physical incompetency to practice was made a ground for action by the Board. All practitioners will be required to report to the Board cases where they treat other practitioners for alcoholism or drug addiction, or for mental disorders, if the treating physician feels that the continuance in practice by such physicians will endanger their patients or the public.

A new section was added to the Act giving the Board the right to set up committees from its membership to handle minor offenses without the necessity of convening the whole Board for a hearing. Such committees are given the power to make investigations, hold informal conferences with the physician accused, exonerate him from the charge, reprimand him, or place him on probation, or, if the facts indicate that the offense is a serious one, report its findings to the Board for a formal hearing. The rights of the accused are protected in that if any punitive action is taken by the committee he may indicate his desire for a hearing by the Board, and thereupon the action of the committee is vacated, its findings transmitted to the Board, and a formal hearing held in the usual manner. The Board is of opinion that through this new procedure many unfounded charges and minor offenses may be handled without the necessity of convening the fifteen members of the Board for formal hearings.

Under present law the suspension or revocation of a license by the Board can be stayed by the noting of an appeal to the court and the offender may continue to practice pending the appeal and until the case is finally disposed of by the courts. This section was amended in such manner as to make the suspension or revocation operative until the order of the Board is overruled by the court on appeal.

Drug Dispensing

The question of the right of physicians to dispense drugs to their patients and to make a charge therefor has been a matter of concern to physicians and pharmacists for a long time, particularly in some sections of the state. While physicians in rural areas and in towns of less than one thousand population can procure from the Board of Pharmacy a license to practice pharmacy, all other physicians are bound by the provision of the pharmacy code that they cannot dispense drugs to their patients if such dispensing is made as a sale. At a meeting of your Legislative Committee in January, at which representatives of the Board of Pharmacy and the Virginia Pharmaceutical Association were present, an amendment to the pharmacy code was suggested

by counsel for the Society and taken under consideration by the pharmacy representatives. Later the Association declined to go along with the amendment and a bill (HB 497) was introduced in the House by Dr. Pennington to repeal that part of the statute denying to physicians the right to make a charge for drugs dispensed to their patients. Further conferences were held and an agreement reached as to a form of amendment which would be supported by both physicians and pharmacists. A bill making the amendment (HB 682, Ch 171) was introduced and duly passed by both houses. In view of its importance, the whole section with the amendment thereto italicized is set out as follows:

> § 54-481. This chapter shall not be construed to interfere with any legally qualified practitioner of medicine, dentistry, osteopathy or veterinary medicine, who is not the proprietor of a store for the dispensing or retailing of drugs, or who is not in the employ of such a proprietor, in the compounding of his own prescriptions, or to prevent him from supplying to his patients such medicines as he may deem proper, if such supply is not made as a sale, *and such practitioner, in cases of emergency where there is an immediate need of medicines, or in cases where a patient does not have reasonably prompt and convenient access to a pharmacy where the proper drugs or medicines can be procured, may make a reasonable charge for the drugs or medicines so dispensed, and the making of the charge shall not cause the dispensing to be made as a sale under the provisions of this chapter.*

Medical Scholarships

Until now those who have been awarded medical and dental scholarship loans by the State of Virginia have been required to carry life insurance to assure repayment to the State. This requirement has been eliminated (SB 285, Ch 640) and if the recipient of the loan dies while receiving instruction the loan will be treated as having been repaid.

Sales Tax

The new sales tax (HB 222, Ch 151) is comprehensive, but it exempts "professional, insurance, or personal service transactions which involve sales as inconsequential elements for which no separate charges are made." The bill as introduced also exempted the sale of medicines, drugs, crutches, prosthetic devices, and orthopedic appliances when prescribed by licensed physicians or dentists. Amendments made in the House of Delegates added the sale of artificial eyes, contact lenses, eyeglasses, and hearing aids to the list of sales exempt when made on prescription, and added optometrists and opticians to those who might prescribe items the sale of which would be exempt. The bill was further amended in the Senate to make dispensing by practitioners as fully exempt as sales on prescription.

Drug Abuse Control Law

The Federal Drug Abuse Control Act, which became effective Febuary 1, 1966, regulates the manufacture, sale and dispensing of amphetamines, barbiturates and such other depressant, stimulant or habit forming drugs as may be brought under control by the Secretary of Health, Education and Welfare. The Virginia Pharmaceutical Association and the Board of Pharmacy sponsored a bill (SB 268, Ch 363) designed to parallel the federal act. Under this bill, the Board was given the same powers as were given the Secretary by the federal statute. At the suggestion of counsel for the Society, an amendment was agreed upon which sets up a committee of five licensed physicians to be appointed by The Medical Society of Virginia to consult and advise with the Board of Pharmacy before the issuance or repeal of any regulation bringing a drug under control of the Board or exempting a drug from such control, and the bill as amended was duly enacted.

The Code section which defines the terms used in the State Pharmacy Act was amended so as to more precisely and correctly define "wholesalers" (SB 266, Ch 193), and the Dangerous Drug Act was changed so as to permit investigators to conceal their identity (SB 267, Ch 194).

Fees for Examining Prisoners

The maximum fee which the Director of Welfare and Institutions is authorized to pay for a physical examination of a prisoner transferred to the State convict road force was increased and an additional fee for a chest X-ray was authorized (SB 412, Ch 567).

Workmen's Compensation

§ 65-85 of the Code of Virginia requires employers to furnish necessary free medical attention to injured employees for a period of up to 90 days after an accident, and permits a member of the Industrial Commission to extend this maximum to two years. Senate Bill 368, as introduced, would have removed the two year limitation entirely, but the General Assembly amended the bill so as to retain the limitation but extended it to three years. The Assembly removed a limitation on the amount

of the fee allowed to physicians who are appointed by the Industrial Commission to make medical examinations and testify as to the results thereof (HB 602, Ch 417), but declined to give the employee his own choice of the physician who would treat him (HB 525).

Title 65 of the Code declares certain diseases to be occupational and provides that they are compensable if they arise out of and in the course of employment. At one time pneumoconiosis was included, but in 1958 silicosis and various other lung diseases were substituted for it. House Bill 664 would have deleted "silicosis" and substituted "pneumoconioses, including silicosis, coal miners' pneumoconiosis and other lung diseases," but the bill was defeated.

Insurance

The Virginia Advisory Legislative Council considered health and automobile insurance policy problems during the last two years and some of their recommendations are commented on in the notes on legislation dealing with motor vehicles. The Council concluded that many conditions arise which require the use of hospital facilities for diagnosis. Presently hospital insurance primarily indemnifies the individual for expenses while in the hospital. This seemed to encourage unnecessary hospital admissions and the General Assembly agreed to a resolution proposed by the V.A.L.C. (SJR 8) asking the insurance industry to consider limited substitution of outpatient for inpatient coverage in accident and sickness policies so as to minimize insurance costs.

Blue Shield Payments to Podiatrists

About midway of the session the podiatrists introduced in the House a bill (HB 437, Ch 276) providing that no plan for furnishing prepaid medical and surgical services shall fail to pay for services rendered by podiatrists to its subscribers if the services rendered are covered by the subscription contract and are services which podiatrists are licensed to render in Virginia. It was apparent that intensive lobbying on an individual solicitation basis had been done as the bill carried forty-three of the one hundred House members as patrons. The bill was passed by the House and went to the Senate Committee on Insurance and Banking during the closing days of the session. Representatives of the Society and of Blue Shield waited out one afternoon without the bill being reached on the calendar and when the bill was called the second day the chairman stated that on account of the long docket each side could have only two minutes to present its reasons for favoring or opposing the bill. This time was stretched to about eight minutes for the four speakers for the Society and Blue Shield, but it was impossible to make an adequate presentation of the issues and the bill was reported and passed by the Senate.

The position of the Society and Blue Shield was weakened by the facts that these practitioners are fully licensed to render the service for which they desire to be paid by Blue Shield, medical doctors are paid when they render the identical services, Blue Shield paid podiatrists for three years on a voluntary basis and now pays dental surgeons and osteopaths under the plan, the Medical College of Virginia has established a Division of Podiatry in its Department of Surgery and a podiatrist gives a course of lectures on podiatry in the Medical College, and Blue Shield is now paying podiatrists under some of its federal contracts. Further, the head of the Diabetic Clinic at the Medical College of Virginia stated to the Committee that he could not run the clinic without the help of the podiatrists.

Your Committee regrets that this bill was passed, particularly because it takes away from Blue Shield the right to determine what services are to be covered by its contracts. Actually, the financial impact upon Blue Shield will be quite small as there are only 55 podiatrists practicing in the state and nine of these are already covered by the District of Columbia plan, and further, very few of the services rendered by podiatrists are included in the fee schedules.

Psychologists

After the 1962 and 1964 regular sessions of the General Assembly your Legislative Committee reported to you the disagreement between physicians and psychologists with respect to the extent to which psychologists should work with persons having emotional or personality problems and the degree of independence psychologists should have in working in this field. There was the fear that, in working with persons having emotional problems, psychologists, in spite of their competence in their special areas of training, might not recognize cases needing medical care. Moreover the two professions had been unable down through the years to clearly define the disputed area of practice.

The Virginia Advisory Legislative Council studied these problems (SD 5) and recommended to the 1966 General Assembly a lengthy and detailed bill for the licensing of psychologists (HB 55, Ch 657). The bill creates a Virginia Board of Psychologists

Examiners which examines all psychologists as to adequacy of experience and professional competency and licenses all of them except those who seek to be licensed as clinical psychologists. The Board then forwards the clinical psychology applications, together with its recommendations as to issuance, to the State Board of Medical Examiners which issues the licenses. The clinical psychologists are also brought under the provisions of the Medical Practice Act which proscribe unethical and unlawful practice. The bill does not, however, give the Board of Medical Examiners any control over the licensing of psychologists so long as their conduct is lawful and ethical and the statute specifically permits psychologists to practice psychotherapy.

The bill as introduced was strongly supported by the testimony of psychiatrists, and criticized by psychologists. A number of amendments were made, including ones providing for the payment of a fee to the Board of Medical Examiners for licensing the clinical psychologists, exempting those persons who call themselves social psychologists, and defining a clinical psychologist as a psychologist who "is competent to apply the principles and techniques of psychological evaluation and psychotherapy to individual clients for the purpose of ameliorating or attenuating problems of behavioral and/or emotional maladjustment." A clinical psychologist was added to the Board of Medical Examiners and the Board of Psychologists Examiners was given the usual injunction powers.

As originally introduced the psychologists' bill would have extended the privileged communication status enjoyed by ministers of the gospel in their pastoral and confessional work to psychologists generally. This provision was stricken from the bill, and a separate bill was introduced and enacted, extending to communications with clinical psychologists the same privilege as it extended to communications with other practitioners of the healing arts (HB 257, Ch 673).

Malpractice Statute of Limitations

Under the present Virginia law the statute of limitations in a cause of action arising from professional negligence or malpractice begins to run as of the time the cause of action arises. Representatives of other interested professions were immediately alerted when a bill (HB 706) was introduced to provide that the statute of limitations in such a case would not begin to run until the injured party discovered the cause of action. The purpose of such a change runs counter to the public policy upon which statutes of limitation are founded. A suit could have been brought against a professional man long after any factual defenses had melted into the past. We were glad to see this bill left in the House Committee to which it was initially referred.

Human Bodies

After the 1964 session we reported to you the enactment of legislation providing a specific method by which one might leave his eyes for scientific use or for replacement or rehabilitation of diseased human eyes. This legislation has now been amended (HB 53, Ch 103) so as to make it possible for the entire human body or parts thereof to be left for scientific use or for replacement or rehabilitation of diseased parts of the bodies of other human beings.

Nurses

The General Assembly declined to direct the Virginia Advisory Legislative Council to study the opportunities for nursing education in Virginia and the need for additional nurses in the State (SJR 64), or the present and future needs of the State with respect to facilitities and programs for nurses' training (HJR 100). However, the Assembly did increase from $200 to $300 the value of each of the 100 nursing scholarships given annually by the State. Of these scholarships, the 20 which are awarded from the State at large have heretofore been restricted to Negroes, but are now to be made available without regard to race (SB 198, Ch 162).

Child Abuse

In addition to the child abuse bill prepared by counsel for the Society (HB 84, Ch 577), three other bills were introduced which were designed to accomplish similar purposes (SB 9, HB 92 and 119). After an extended hearing before the House Committee for Courts of Justice the bills were referred to a subcommittee for study and report. This subcommittee presented a Committee Amendment in the Nature of a Substitute for the Medical Society bill which had been introduced by Mr. Bernard Levin of Norfolk. The substitute incorporated most of the provisions of the Medical Society bill, except that the classes of persons required to report incidents of abuse were narrowed to include only practitioners of the healing arts, residents and internes, and registered nurses, visiting nurses and public school nurses. The Substitute was passed by the House and reached the Senate during the closing days of the session. The patrons of the bill did not think it wise to offer amendments which might

prove controversial and delay or endanger final passage, and the Substitute was enacted.

In this connection it is interesting to note that at this session a new statute was enacted (HB 311, Ch 153) which provides for the examination and licensing of Registered Social Workers and Assistant Social Workers. The House Committee was concerned by the lack of a precise definition of the term "social worker" and it seems probable that an amendment to include those licensed social workers can be obtained at the next session.

The Assembly also enacted a closely related bill which makes it a misdemeanor for persons having custody of a minor child which shows evidence of physical injury to fail to secure prompt and adequate medical attention (HB 85, Ch 578).

Paternity Blood Tests

Under a statute adopted at this session, whenever a question arises in the trial of any divorce or support proceeding as to the paternity of a child the court may, upon the motion of either party, direct the mother, the child, and the putative father to submit to a blood grouping test. The new law (HB 862, Ch 517) is rather broad in its language in that it makes the results of tests unqualifiedly admissible in evidence so long as they are offered by a duly licensed practicing physician or "other qualified person." The court may require the person who requests the blood grouping tests to pay the cost thereof.

Mental Illness

In 1962 the General Assembly directed a study of the various laws relating to mental illness and in 1964, as a result of that study, made a number of changes in the law but did not revise Title 37 of the Code, which deals with the mentally ill. This Assembly directed a general revision of Title 37 (HB 31, Ch 206).

A bill to require legal representation of a person sought to be committed in any proceeding for compulsory commitment for observation as to mental condition (HB 25) died in committee when it appeared that such persons have the right to be represented at their own expense by counsel of their own choice under the law as presently written and that as a practical matter an attempt is usually made to see that these persons are represented. Another bill (HB 364) was introduced for the ostensible purpose of requiring legal representation in all commitment proceedings. However, it also would have repealed provisions of the Code which permitted admission without commitment. These particular sections had been in the insanity laws of the state for a number of years and were broadened in 1964. It seemed that this bill went too far and that what was actually sought was some requirement of representation or other protection against an admission which was really in the nature of an involuntary commitment for observation. The bill was therefore completely redrafted so that it would have amended only one section of that article of the law. That amendment would have required legal representation in order that no one who objected to the procedure could be so admitted. This bill was vetoed by the Governor (on April 7).

It seems that in years past in some courts there may have been some laxity with respect to the rights of persons who had been charged with crimes and were sent by the courts to mental hospitals for observation. A bill (HB 857) enacted at this session (Ch 715) considerably dampens judicial discretion in these matters and tightens the procedure. In particular it requires commitment proceedings if the hospital reports that the defendant has a mental illness. It also requires legal representation for such persons.

Where a person was acquitted on the ground that he was insane or feebleminded at the time a crime was committed, the court could heretofore release the defendant if his discharge was not considered dangerous to the public health or safety. Senate Bill 129 passed the Senate and was left in the House Courts of Justice Committee, but the Committee Amendment in the Nature of a Substitute for its identical companion, House Bill 89, was actually reported out and enacted (Ch 659). The Substitute for House Bill 89 requires that a person so acquitted be committed to a state mental hospital for the criminally insane and puts all sorts of procedural barriers around him, apparently designed to prevent the release of a dangerous person. This change in the law seems to proceed upon the theory that if a defendant in a criminal case was insane at the time of the commitment of the offense with which he is later charged, there should be a presumption that he continues insane indefinitely until there is some official finding that he is no longer insane. As a practical matter it does not seem likely that this will often result in any real injustice to persons acquitted on grounds of insanity, even though one practical effect of the statute is that anyone who thinks of pleading the defense of insanity must also consider that if his defense is sustained he will have to pay a penalty of at least three months con-

finement in an institution for the criminally insane whether or not he is then criminally insane.

House Joint Resolution 23, directing a V.A.L.C. study of the type of sentences, kinds of confinement, and method of treatment appropriate for sex offenders made its way to the Senate Rules Committee and died there. An identical resolution (SJR 17) was reported by the Senate Rules Committee but was not agreed to.

After 1965, persons who incur the expense of special training and schooling for mentally retarded or emotionally disturbed dependents will be permitted to include such costs in the medical expenses which they deduct in computing the income tax due from them to the State of Virginia (SB 184, Ch 352). Separate House bills amended welfare laws of the state so as to make tubercular or mentally ill inmates of medical institutions, other than tuberculosis sanatoria and mental hospitals, eligible for aid to the aged (HB No. 223, Ch 108) and aid to the blind (HB 494, Ch 293). Previously such patients were not able to qualify for this assistance if they were in any kind of medical institution.

Alcoholism

At its 1964 session the General Assembly directed the Virginia Advisory Legislative Council to study the treatment and rehabilitation of alcoholics. The Council made several recommendations. One was for the development, as an integral part of the Medical College of Virginia and within the total objectives of the Division of Alcohol Studies and Rehabilitation, of a physical facility for study and investigation of the causes, treatment and prevention of alcoholism. This was enacted into law (SB 226, Ch 164) with an appropriation of $1,000,000 from the Alcoholic Beverage Control Fund. Recommendations for establishment of seven new clinics by the Departments of Health and Mental Hygiene and Hospitals were not implemented by the Appropriations Act.

The Council also recommended that the alcoholic who recognizes his need be encouraged to seek treatment, and Senate Bill 137, providing for the voluntary admission of inebriates to state or private hospitals and institutions, was enacted (Ch 528). The Council resolution (SJR 20) commending Alcoholics Anonymous and directing all hospitals and institutions currently treating alcoholics to cooperate with them was agreed to, but Council resolutions creating a commission to study methods evolving in other states for treatment and rehabilitation of alcoholics (SJR 21), and directing the Department of Health to survey hospital admission statistics to determine the number of alcoholics being treated in Virginia (SJR 22), were left in the Senate Finance and House General Laws Committee, respectively.

A resolution (HJR 52) directing the V.A.L.C. to study the establishment of regional treatment centers for alcoholism and to review the laws relating to both alcoholism and drunkenness died in the House Rules Committee.

When proof of drunkenness or being under the influence of alcohol is a necessary element of a crime of which a person is acquitted by reason of his being an alcoholic, such person may, under a new section of the Code added at this session, be committed to the Department of Welfare and Institutions, or to the Department of Mental Hygiene and Hospitals, or to a facility under the control of the State Health Department for treatment of alcoholics (HB 488, Ch 292).

The Drunken Driver

Bills were introduced which would have made many changes in the drunk driving statutes, particularly in the so-called implied consent law.

Senate Bill 194 (Ch 635—containing some of the provisions of HB 28, 211 & 647) amends the implied consent statute so as to enable local governments to enact ordinances paralleling the implied consent law. This of course diverts to the localities revenues from the fines which may be imposed. In addition, an immunity clause was added to the implied consent law as follows:

> No civil liability shall attach to any person authorized to draw blood as provided herein as a result of the act of withdrawing blood from any person submitting thereto, provided the blood was withdrawn in accordance with recognized medical procedure, and provided further that the foregoing shall not relieve any such person from liability for negligence in the withdrawing of any blood sample.

Senate Bill 195 (Ch 636—containing some of the provisions of HB 404 & 440) makes it an offense to drive a vehicle while one's ability to drive is impaired by the presence of alcohol in his blood. This is a lesser offense which is included within the offense of drunk driving. Impaired driving is presumed from a blood alcohol test of 0.10 to 0.15 per centum. Whereas a first conviction of drunk driving will result in a one year forfeiture of the person's driving license and a second conviction, two years, a first conviction of impaired driving

will result in a six months forfeiture, and a second conviction, one year.

The General Assembly declined to prescribe coordination tests (HB 341) in addition to, or breath-alcohol tests (HB 823) in place of, the blood test and declined to make blood alcohol tests voluntary (SB 234) or to make reports of such tests admissible in civil proceedings (SB 8).

Motor Vehicles

The General Assembly killed a bill to require both inside and outside rear view mirrors on passenger vehicles (HB 30), and bills to require motorcyclists to wear crash helmets (HB 96 and HB 144). It also killed a bill which would have required the liability insurance carrier, when filing its certificate of insurance, to state whether medical payment coverage is provided in the particular policy and the limits of the coverage (HB 90).

Chapter 208 (HB 42) of the Acts increases the funds available to local school districts for driver education programs and decreases the fees school boards may charge those who enroll in such programs. The Commissioner of Motor Vehicles must now include in the form for application for an operator's license questions as to the existence of physical or mental conditions which would impair the ability of the applicant to operate a motor vehicle safely. The Commissioner is to require an examination by a licensed physician of any person suffering such a condition and the doctor's report is to contain a statement as to whether, in his opinion, the applicant's physical or mental condition at the time of the examination precludes his safe operation of motor vehicles (SB 77, Ch 631—recommended in V.A.L.C. report set out in HD 11).

Insurance

A resolution (HJR 54) which would have directed the Virginia Advisory Legislative Council to study the advisability of providing hospitalization and medical insurance for State employees was left in the House Rules Committee. A bill (HB 463) which would have required Blue Shield contracts to include automatically those dependent offspring of a subscriber who would not have been dependent had they not become incapacitated before reaching the age at which they would no longer be covered by the contract passed the House, but died in the Senate Insurance and Banking Committee.

Air Pollution Control

At its 1964 regular session the General Assembly directed the Virginia Advisory Legislative Council to make a study of air pollution. In 1965, Congress passed the "Clean Air Act", providing matching federal funds for state or regional programs of air pollution control. The V.A.L.C. conducted a comprehensive and detailed study and recommended in its report (HD 15) the creation of a state air pollution control board with broad and flexible planning and regulatory powers. The General Assembly created such a board (HB 520, Ch 497) and appropriated, subject to prior written approval of the Governor, $50,000 for the work of the board during the biennium (Item 227.1) in lieu of the $200,000 appropriation which had been recommended. A bill (HB 196) which would have required all new automobiles to be equipped with air pollution control devices did not get out of committee.

Eye Protective Devices

Chapter 69 of the Acts (HB 34) will require students and teachers to wear eye protective goggles when doing certain work which is hazardous to the eyes. The schools must provide the goggles either free of charge or at cost, unless the student furnishes his own.

PKU

Early in the session bills were introduced in both the House (HB 336, Ch 179) and the Senate (SB 208) to require that newborn infants be tested for phenylketonuria. One of the bills went further and covered other metabolic disorders, but both bills were designed to place the obligation for such testing on surgeons, obstetricians, hospital personnel or persons in charge of maternity homes. The State Health Department was already carrying out a program encouraging voluntary testing for PKU and a number of practical objections were apparent in the procedures suggested in both bills. The House measure was completely rewritten, reported and enacted. Under the new Chapter 5.1 of the title of the Code on Health, every infant born in the State is required to be tested for PKU but the burden of causing such testing to be done is placed upon the parent or other person having control or charge of an infant at childbirth. The Health Department must notify such person that he is responsible for having the test made. The Board is also to carry out an intensive public education program concerning this disorder, to make regulations for the taking and testing of samples or specimens, and to set up a system for reporting the tests. It must follow up on positive findings and it must recommend

procedures for treatment. The statute exempts from its provisions Christian Scientists and persons of similar belief.

Kerr-Mills and Medicare

The statute setting forth eligibility for Kerr-Mills assistance was amended so as to make it possible for one to receive medical aid to the aged during the same month in which he receives old age assistance, if he is hospitalized (HB 174, Ch 107). The General Assembly also authorized the Commissioner of Public Welfare to begin on April 5, 1966, to work out plans to provide payments for rendering medical care and services to OAA recipients, and, subject to the approval of the State Board of Public Welfare, to enter agreements with the Secretary of HEW with respect to such payments (HB 849, Ch 626).

Health

The per diem compensation of members of the State Board of Health was increased from $15 to $20 (SB 99, Ch 159) and the State Health Commissioner was authorized to make the necessary plan for implementation of Title 19 of the Medicare statutes in the State (SB 437, Ch 570). Because the federal government had enacted the Mental Retardation Facilities and Community Health Centers Construction Act, making federal funds available for the construction of mental health facilities, the State Hospital Survey and Construction Law which implements the Hill-Burton Act was amended so as to give the State access to these federal funds (SB 207, Ch 534). Chapter 529 (SB 146) of the Acts authorizes the State Board of Health to provide certain home health services, similar to services presently provided by it, in such way as to correlate these activities of the Board with the Medicare legislation when it becomes effective. The Board is also authorized (HB 716, Ch 440) to obtain injunctions to prevent violation of its orders regarding the public water supply. A section of the health law which permits govermental units to combine to provide one district health department for more than one governmental entity was amended so as to permit a city to arrange with the State Department of Health for the operation of the City Department of Health (SB 219, Ch 535). The charter of the City of Richmond was amended to enable it to participate in a district health department with other governmental entities and to permit the City Manager to appoint any person serving as District Health Director to the post of Director of Public Health and Health Officer for the city (HB 228, Ch 109).

State Hospital Board

The per diem of members of the State Hospital Board was also increased to $20 and the annual maximum for such compensation changed from $900 to $1200 (SB 261, Ch 192). The Commissioner of Mental Hygiene and Hospitals was authorized, subject to the approval of the Governor, to employ special counsel to defend any of his employees who are prosecuted on charges arising out of acts committed in the discharge of their official duties (SB 296, Ch 371). A bill (HB 807) to create a commission charged with studying all aspects of publicly supported penal and mental institutions in Virginia failed to pass. Chapter 95 (HB 95) of the 1966 Acts permits Arlington, Alexandria, Fairfax and Falls Church to supplement the salaries of persons employed in State mental health clinics in that area and to reimburse such employees for travel expenses for which they are not otherwise reimbursed.

Mental Institutions

House Joint Resolution 108 which would have directed the Virginia Advisory Legislative Council to study the steps necessary for the accreditation of Virginia mental hospitals carried 55 patrons, some of whom must have had serious second thoughts, for the resolution never got out of the House Rules Committee. The Assembly did transfer the mobile psychiatric clinic from Mental Hygiene and Hospitals to Welfare and Institutions (SB 211, Ch 354), and directed the State Board of Health, on or before June 30, 1967, to transfer to the State Hospital Board one of its sanatoria, to be selected by the Governor after advising with the State Board of Health and the State Hospital Board, and the State Hospital Board was directed to operate the property for care and treatment of "mentally ill, mentally retarded, mentally deficient or alcoholic patients or as an institution devoted to geriatrics or treatment of other mental disorders" (HB 865, Ch 716). A bill (HB 784) which would have required a referendum for the issuance of bonds for the construction of additional physical facilities, at universities and colleges or for use in the treatment of the mentally ill, was not reported from the Privileges and Elections committee of the House. Another bill (HB 394) which would have appropriated $650,000 to the State Hospital Board for the purchase of land for the erection of a hospital in Fairfax County for

the treatment of emotionally disturbed and mentally retarded children was not reported from the Appropriations Committee. A Senate bill (SB 376) authorizing construction of a hospital for the mentally retarded, on land to be acquired without cost to the State, and appropriating $100,000 for its planning, was not reported from the Senate Finance Committee, but an identical House bill was enacted, minus the appropriation and with the area in which the hospital could be located enlarged (HB 765, Ch 488). For some reason a Senate bill (SB 396) which would have authorized counties or cities to donate land to the State for establishment, operation or maintenance of colleges or hospitals for the mentally retarded or mentally ill was stricken from the House calendar.

Rescue Squads

A House joint resolution (HJR 26) which would have provided for amendment of the Constitution of Virginia so as to exempt from taxation the property of volunteer fire departments and volunteer rescue squads, died in the Senate Privileges and Elections Committee.

Charitable Hospitals

Charitable hospitals have long enjoyed an immunity from civil liability for personal injuries resulting from the negligence of their employees, and a futile effort to terminate it was initiated at the 1962 session and strenuously renewed this year (HB 721). The bill was reported to the floor of the House of Delegates and got as far as the Senate Courts of Justice Committee where it was left in the closing days of the session.

Medical College of Virginia

The General Assembly made a number of changes in the statutes governing the Medical College of Virginia, the principal one being the giving to the College Alumni Association of the right to suggest persons for appointment to the Board of Visitors (HB 54, Ch 94). In 1962 several colleges were authorized to enter into a joint agreement under which they would be able to contract with the National Aeronautics and Space Administration for the operation and management of a space radiation effects laboratory in the Hampton Roads area. The General Assembly has now permitted the Medical College of Virginia to enter into the arrangement immediately (HB 657, Ch 705).

The General Assembly also created a commission (SJR 63), to be appointed by the Governor, to undertake a comprehensive study as to whether a major new State university should be created in the Richmond metropolitan area incorporating M.C.V. and R.P.I. The director and staff of the State Council of Higher Education are to serve as the secretariat of the commission.

Chesapeake Hospital Authority

In 1964 the General Assembly created the Norfolk Area Medical Center Authority, authorizing it to evaluate the needs, problems and resources relating to health and medical care, and to make immediate and long range plans based on such evaluations. It was also authorized to build and operate medical educational institutions. A bill creating an identical authority in the City of Chesapeake (HB 411, Ch 271) was enacted after it had been amended so as to eliminate the evaluation function and the authority to build and operate a medical college. The Chesapeake Authority may build and operate hospital and medical facilities but not educational institutions. The Norfolk Authority was officially classified as an educational institution, giving it rather extended authority to borrow and issue bonds. In removing the educational characteristics of the Chesapeake Authority the General Assembly likewise killed House Bill No. 410 which would have classified the authority officially as an educational institution of the State.

During the last week of the session your Committee received from interested pathologist members of the Society a request that a Virginia Advisory Legislative Council study of the operation of medical laboratories in the State be made, with particular reference to the qualifications of the directors thereof and the persons employed therein. Counsel for the Society prepared a House Joint Resolution directing such a study, but the General Assembly members of the Committee felt that it would be unwise to introduce a substantive resolution of this character so late in the session, as it would be almost impossible to have it considered and approved by both Houses. In this connection, it was expected that lay laboratories would attempt to procure licensure privileges at this session in order to be able to qualify for laboratory work under the Medicare statutes. No bill to accomplish this purpose was introduced.

In previous years counsel for the Society have not registered as legislative representatives before the General Assembly, as it was thought they could

render more effective assistance to your Committee by a follow-up of all bills which might be of interest to the medical profession, by keeping the General Assembly members of your Committee informed as to the status of these bills, the advisability of suggesting amendments thereto, or of supporting or opposing their passage, and the times and places of Committee hearings with respect thereto, by the preparation of memoranda as to the purpose and effect of certain bills for the use of members in floor debate, and the appearance before Committees to explain the meaning and effect of proposed statutes. However, a stringent lobbying statute was adopted in 1964 and the Council of the Society authorized its attorneys to register for the 1966 session.

This action seems well advised in view of the fact that your Chairman, as Chairman of the Senate Finance Committee, was deluged with sales tax, budget hearings, and other matters of State-wide interest, and the decision of Dr. Elliott not to serve for this term left Dr. Pennington as the only medical member of the House. Further, the volume of bills of interest to the profession, the number of conferences and Committee hearings, and the amount of detail work and follow-up required was without precedent.

We are most grateful for the assistance so readily given our Committee and its members in the General Assembly by the members of the Society on whom we called for help.

James D. Hagood, M.D., *Chairman*

Lactase Deficiency

Patients suffering from abdominal cramps, bloating, flatulence and diarrhea often have been labeled as "neurotic" or showing the "irritable-colon syndrome," a diagnosis with little hope for effective treatment.

Recent studies now show that these symptoms can be caused by milk and other foods containing lactose in many persons deficient in the intestinal enzyme, "lactase." If these items are withdrawn from the diet, symptoms will promptly subside.

Drs. Fred Kern and John E. Struthers of the University of Colorado Medical Center point out that lactose is poorly absorbed from the intestine when mucosal lactase is deficient. Several recent studies suggest that lactase deficiency is common in older adults and may occur as an isolated enzyme defect or may accompany organic disease of the bowel.

Symptoms of deficiency depend on how much milk or milk products are ingested, how fast the lactose enters the intestine, how severe the enzyme deficit, and probably other facts not yet known.

Most patients can tolerate something less than a glass of milk without symptoms. Some who use little or no milk have the deficit with no symptoms unless challenged with large quantities of lactose. At the other extreme, an occasional patient may have continuous or recurrent severe diarrhea without recognizing the relationship of milk ingestion.—*J.A.M.A.*, March 14, pp. 927-930. (Schering Science Bulletin)

Woman's Auxiliary . . . .

President—Mrs. George W. Kelly, Jr., Pulaski
President-Elect—Mrs. Ralph Landes, Danville
First Vice-President—Mrs. William Reardon, Falls Church
Second Vice-President—Mrs. J. R. McGriff, Arlington
Third Vice-President—Mrs. Walter Eskridge, Parksley
Recording Secretary—Mrs. Harold Goodman, Richmond
Corresponding Secretary—Mrs. A. B. Gravatt, Kilmarnock
Treasurer—Mrs. Robert Mitchell, Falls Church
Parliamentarian—Mrs. T. N. Hunnicutt, Newport News
Historian—Mrs. W. Fred Delp, Roanoke
Publicity—Mrs. Daniel Anderson, Norfolk

Annual Meeting

The annual meeting of The Medical Society of Virginia will be held at the Williamsburg Lodge, November 6-9. Mr. Robert I. Howard, Executive Secretary of the Society, says that he has no doubt that this will prove to be the most enjoyable meeting in the history of the Society.

The Pre-Convention Board Meeting of the Woman's Auxiliary will be on Sunday afternoon in the Board Room of the Motor House.

On Monday morning, the general meeting will convene in the Lounge of the Motor House. At noon on Monday, the annual luncheon will be held in Conference Rooms A, B and C of the Lodge. This promises to be an outstanding event.

Plan now to be in Williamsburg and make your reservations early. There will be many planned entertainments for you, as well as a plantation tour for Tuesday.

Antiques Show

The Woman's Auxiliary to the Richmond Academy of Medicine sponsored their Fourth Annual Antiques Show and Sale at the Hotel Jefferson March 9-11. The proceeds from this show are donated to Sheltering Arms and Crippled Children's hospitals, two Richmond hospitals which treat charity patients who come from throughout the State. A total of $27,000 has been donated from this project in the four years since its inception, $8,000 of which was realized this year.

Of "extra" interest was the medical arts and crafts special exhibit. Items in this exhibit were limited to doctors and/or wives of the Richmond Academy of Medicine and Auxiliary. There were 24 doctor donors of these. There were also seven of their wives who exhibited as a team. Fifteen auxiliary members exhibited. Thirty-nine donors displayed 80 objects from crewel work, paintings, restoration and building furniture, tin craft, candlemaking, jewelry, weaving, needlepoint, rug making, etc. This proved to be the most popular exhibit. Thirty-five exhibitors occupied 41 spaces in the ballroom. One hundred and thirty-five of the membership of the auxiliary participated in some way toward the culmination of this project. Mrs. F. Elliott Oglesby was chairman for this year's show.

The largest profit was realized through the Patrons Committee. The door attendance exceeded 7,000 people.

State Sales Tax

With regard to questions raised at the Interim State Meeting in March, it is the belief as this time that insofar as their benefits are concerned the Auxiliaries themselves will not be affected by the upcoming State sales tax. If a ruling is made that the sales tax must apply in such instances then it is believed that it would be solely the person making the sale who would be involved (for example, as in the case of an antique show where individual vendors take booths.)

It is not believed that the Auxiliaries are affected insofar as an admissions tax is concerned. The best advice obtainable at this time would seem to indicate that the Auxiliaries might well proceed with whatever benefits they are accustomed to undertaking, or might desire to initiate, and wait to be approached by Internal Revenue representatives in the event they place a different interpretation upon the matter.

Legislation of interest to the medical profession which was passed by the 1966 General Assembly

1. A law was passed making it mandatory that Phenylketonuria (PKU) tests be done on new-born babies (after the third day), but making it the responsibility of the parents to see that the test is done.

2. A law was passed protecting the doctor from prosecution in a case where he reports suspected child beating.

3. A law was passed which permits the State Board of Medical Examiners to give examinations to graduates from so-called Grade B medical schools. (This will not be done as a general rule, but where the Medical Examiners have reason to believe that a man is competent they will have the power to give him examinations.)

4. A law was passed making possible payments to podiatrists through Blue Shield, when such provision is written into their contracts. (The Medical Society of Virginia was very much opposed to this and fought its passage.)

5. A bill was passed protecting the physician in instances where drugs are dispensed by him under certain circumstances and a reasonable charge made therefor.

6. A new classification of drinking driver was set up on the Virginia "implied consent" statute. A blood alcohol content between .10 and .15 percent would be presumption of guilt of the new offense, which ranks below drunken driving.

Clinical Center Study of Patients with Hyper- or Hypoparathyroidism

The cooperation of physicians is requested in a study of patients with either hyper- or hypoparathyroidism in conjunction with developing a practicable immunoassay for parathyroid hormone being conducted by the Metabolic Diseases Branch of the National Institute of Arthritis and Metabolic Diseases at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Of interest for this study are patients with kidney stones and/or bone demineralization in association with high serum calcium and/or low serum phosphate. Patients with hypoparathyroidism (congenital or following extensive thyroid surgery) having low blood calcium and high serum phosphorus are also needed.

Physicians interested in having their patients considered for the study may write or telephone:

Gerald D. Aurbach, M.D.
Clinical Center, Room 9-D-14
National Institutes of Health
Besthesda, Maryland 20014
Telephone: 656-4000, Ext. 65051
(Area Code 301)

Editorial . . . .

July 1776 . . . . and 1966



THE MONTH OF JULY has been an important one in the life of our country. Our nation was born on July 4, 1776, and we all recall the painting of the three Revolutionary soldiers—son, father and grandfather—who personified the "Spirit of '76." We do not see this picture very often now. Perhaps it is too dated and a little old hat for present day tastes. Just now patriotism appears to be at a discount.

There is little about the behavior of the soldiers portrayed in this painting to remind us of today. There is nothing to suggest a desire on their part for "security". There is no indication that they are trying to avoid becoming "involved". They do not appear to be consciously promoting a "Great Society". There isn't a draft card burner in the lot. In fact they must not have gotten the word at all, for everything they are engaged in seems diametrically opposed to the motivation and aspirations of many present-day Americans.

This willingness to cast caution to the wind and to do a job that should be done did not die with the eighteenth century. Eighty-five years later, on another July day, 50,000 Americans met on the battlefield of First Manassas where they fought for what they believed was right. The next year almost four times this number faced each other on the slopes of Malvern Hill on the first of July, 1862. Exactly one

year later, at Gettysburg, on July 1-3, 1863, 45,000 Americans became casualties in the bloodiest battle of the Civil War. Those were days of great Americans and heroic sacrifices.

This July has become another month of decision. Again young Americans are defending the interests of our country in far off parts of the World. But here at home a not too subtle change has taken place. The cultivation of the inadequate for political purposes, the tax-and-tax, spend-and-spend, and elect-and-elect philosophy, which first appeared during the mid-thirties, and the slow but gradual approach of the Welfare State, which had its origin in the worn-out countries across the Atlantic, have finally flowered in America in the socialization of medicine.

On the first of July 1966, we took a long step toward the establishment of a frankly socialistic state. The passage of Medicare was not in response to any mandate from the grass roots of the electorate for the socialization of medicine. The majority of Americans already had provided for their medical needs. Many of the elderly had policies that gave better protection than the current provisions of Medicare.

The present administration in Washington saw the political capital in health legislation that appeared to give more than it actually did. They realized, too, that the coverage could be broadened both in terms of the number participating and the extent of the benefits, prior to each federal election, until we eventually would have complete socialization of medicine just as Great Britain has under the National Health Act. The impetus came from the top and not from the bottom, but the disease is contagious and the outstretched palm for the federal handout is taking the place of the military salute in our national consciousness.

A few flags were displayed on the Fourth this year but there was little to remind us of that Fourth of July 190 years ago. Some Americans were fighting in Viet Nam on what appears to be a no-win basis, but most of the others who could leave home spent the long week-end on the river or at the beach. T. S. Eliot speculated on how the world would end: would it close with a bang or a whimper? He did not have to wonder how our country came into being, for unquestionably it began with a bang nearly two centuries ago, but his misgiving that the world would end with a whimper seems more than justified if our nation continues to follow its present decadent course.

H. J. W.

To Educate the Patient

IN A FAREWELL LECTURE to his students at the University of Virginia in 1833, Robley Dunglison said: "As a general principle to freely expose to your patient, if intelligent and if he desires it, the grounds on which you proceed in the management of his case. If you cannot do this there will generally be good reason for supposing that your comprehension of the case is not as clear as it ought to be."

The primary aim of the physician is to serve the patient. However only too frequently the patient is unaware of the nature of his illness and its management. This leads to much anxiety, misunderstanding and medical delusion.

The successful management of a diabetic patient who has been educated about his disease and its management is commonplace. With the many scientific advances, we will be called on to treat more patients with diseases, whose eventual prognosis will depend to a large extent on their cooperation. This cooperation is best attained in the patient who fully understands his illness.

In our concern over the patient we often forget that our concern is usually second to that of the patient. The nature of the illness and its treatment explained in simple intelligible language will be of great benefit and comfort to the patient. The explanation will, of course, vary from patient to patient and physician to physician. An additional significant benefit is that in making such an explanation the physician finds the problem becomes clearer to him.

Scientific advancement continues to open many new avenues of knowledge. As physicians we are all concerned with the teaching and application of this knowledge as witnessed by the great interest in medical school curricula and continuing education for the practicing physician. As we strive to improve our knowledge let us not forget "to educate the patient".

J. SHELTON HORSLEY, III, M.D.

Current Currents

KEOGH BILL: The Keogh amendments of 1966 have passed the House by a vote of 291-0. The Bill, known as H.R. 10, was considered under "Suspension of Rules" which requires a two-thirds vote of the members present and voting in order to bring it to the floor. As passed, the Bill would eliminate the 50% limitation on the deduction of amounts up to 10% of annual income, or $2,500, whichever is smaller, set aside for retirement purposes by the self-employed. Other provisions of the Bill primarily affect farm owners.

As this issue goes to press, H.R. 10 has been sent to the Senate and referred to the Senate Finance Committee. It is expected that attempts will be made to delete, or alter, some of its provisions.

SPEAKERS' PROGRAM: The American Medical Association now has an expanded speakers program designed to reach the American people with health information vital to them, the profession and the nation. To make this program most effective, AMA has selected physician-speakers who are competent in particular areas of medicine. A list of subjects has been prepared which should interest service clubs, fraternal and religious organizations, professional associations, business groups, the PTA, and students in local colleges and high schools.

It goes without saying, of course, that members of local speakers bureaus should have first call on opportunities to appear before interested organizations. But on occasions when a group expresses interest in obtaining an out-of-town speaker, or an AMA representative, you might wish to contact the AMA speakers program. Requests should be addressed to Mr. Edward A. Uzemack, Director, Officers Services Department, American Medical Association.

PHYSICIAN DRAFT: The Defense Department has reduced its latest draft call for physicians from 2,496 to 1,713. The reason cited is that the Viet Nam casualty rate is lower than originally expected. As a result, 783 physicians will soon receive letters from their draft boards cancelling earlier orders to report for active duty. Of the 1,713 being called, the Army will get 958, the Navy 405, and the Air Force 350.

According to the Washington Report on the Medical Sciences, a comprehensive Defense Department report on the draft has been revived and will soon be released. The chapter dealing with physicians is said to indicate that the doctor's life in service leaves much to be desired. One indication of this is that nearly half of the military medical force is composed of young physicians—serving out their military obligation. The purpose of the report is to determine whether the draft is necessary, or whether modifications in military service would permit a voluntary force.

It is understood that AMA has also been working on a similar report. Plans for its release, however, are unknown.

MEDICAL ASPECTS OF SPORTS: The Medical Society of Virginia will, on Sunday, July 24, sponsor its second statewide conference on the medical aspects of sports. The conference is again presented in cooperation with the Virginia High School League and will be held in the beautiful new University Hall at Charlottesville.

One of the bright spots in our nation during these crucial times is a love of sports and deep-seated interest in obtaining physical excellence. Each year, more students indicate a wish to participate in their schools' athletic programs and our physicians, athletic directors, coaches and trainers are fully aware of the many problems they share in the care of these young athletes.

The conference on July 24 will be an afternoon and evening affair—beginning at 2:00 P.M. and concluding with a cocktail party at 5:30 P.M. and dinner at 6:30 P.M. Three subject areas of tremendous interest will be covered—with sufficient time for general discussion. Dr. Edward E. Kimbrough, Columbia, South Carolina, will discuss "Athletic Injuries of the Knee", while Dr. Fred L. Allman, Jr., Atlanta, Georgia, will speak on the need of establishing "Better Communications Between the Family Physician and Athletic Director". He will also present his thoughts on obtaining better medical coverage at all contests. The program will also include a session on those problems peculiar to early training—particularly where excessive heat is concerned.

There will be no registration fee, and those attending will be guests of The Medical Society of Virginia and the Virginia High School League for cocktails and dinner. It is requested, however, that you make your plans known to the State Office in order that an accurate count can be had with reference to meals.

PUBLIC HEALTH SERVICE: Secretary of HEW John W. Gardner has appeared before three special committees to present his views on the Presidential Reorganization Plan #3 of 1966—which calls for the reorganization of the Public Health Service. As recommended by the Secretary, the Public Health Service would be divided into eight divisions. One of these would be the National Institute of Mental Health, which would be separated from the present National Institutes of Health. The new Institute would have jurisdiction over the Fort Worth, Texas, and Lexington, Kentucky, narcotic hospitals. The Institute would also serve as the principal federal focus for research and directly control programs on alcoholism and drug addiction.

WAR ON POVERTY: According to Representative Ayres of Ohio, at least two dozen of the "generals" directing the war on poverty are paid more than the commanding general of our troops in Viet Nam. He also found that half of the full-time employees are paid more than $10,000 per year.

DID YOU KNOW? Seven out of ten prescriptions today are for drugs not even known 10 years ago.

News . . . .

Calendar of Events

Virginia Medical Service Association—Annual Meeting—Williamsburg—July 15, 1966.

Medical Aspects of Sports—Sponsored by The Medical Society of Virginia and Virginia High School League—Charlottesville—July 24, 1966.

Virginia Council on Health and Medical Care—Health Executives Workshop—Natural Bridge—August 17-19, 1966.

American Congress and American Academy of Physical Medicine and Rehabilitation—44th Annual Session—Sheraton-Palace Hotel, San Francisco, California—August 28-September 2, 1966.

Charlotte Postgraduate Seminar—Presbyterian Hospital Auditorium—Charlotte, N. C.—September 21-22, 1966.

Tennessee Valley Medical Assembly—Tivoli Theatre—Chattanooga, Tennessee—September 26-27, 1966.

Pediatric Post-Graduate Conference on Pediatric Cardiology—University of Virginia School of Medicine—Charlottesville—October 6-8, 1966.

A Symposium on Arthritis—Sponsored by Tidewater Chapter of the Arthritis Foundation—Lake Wright Motor Hotel—Norfolk—October 7-8, 1966.

National Congress on Medical Quackery—Pick-Congress Hotel—Chicago, Illinois—October 7-8, 1966.

American College of Surgeons—Annual Clinical Congress—San Francisco, California—October 10-14, 1966.

Program on Gastroenterology—University of Virginia School of Medicine—Charlottesville—October 28. (6 hours—6 guest professors)

The Medical Society of Virginia—Annual Meeting—Williamsburg—November 6-9, 1966.

Kidney Symposium—Sponsored by Virginia Kidney Foundation—Richmond Academy of Medicine, Richmond—November 11, 1966.

Conference on Handicapping Conditions of Childhood—Sponsored by Virginia Council on Health and Medical Care at request of the Nemours Foundation—Charlottesville—November 16-18, 1966.

Pulmonary Problems—University of Virginia School of Medicine—Charlottesville—November 18-19, 1966. (9 hours)

New Members.

The following new members were received into The Medical Society of Virginia during the month of May:

Fernando L. David, M.D., Lynchburg
William P. Edmondson, Jr., M.D., Charlottesville
Thomas Montague Fulcher, M.D., Falls Church
James A. Gannon, Jr., M.D., Falls Church
John B. Lange, M.D., Charlottesville
Geraldine W. Paul, M.D., Falls Church
Barron H. Stillman, M.D., Virginia Beach
Branko S. Valenti, M.D., Fairfax

Guests at South Carolina Meeting.

Drs. J. Edwin Wood, III, Calvin M. Dunin, and Daniel Mohler, members of the

medical faculty of the University of Virginia, were guest speakers at the annual meeting of the South Carolina Medical Association in Myrtle Beach in May.

Dr. H. B. Mulholland,

Charlottesville, was recently presented a plaque by the Virginia Council on Health and Medical Care. He was the founder and first chairman of the Council and the plaque commemorated his achievements.

Virginia Surgical Society.

At the annual meeting of this Society, held at Hot Springs, April 29-30, Dr. E. Meredith Alrich, Charlottesville, was elected president, succeeding Dr. Carrington Williams, Jr., Richmond. Dr. Yale H. Zimberg, Richmond, is vice-president; Dr. J. Shelton Horsley, III, Charlottesville, secretary; and Dr. Robert Keeley, Roanoke, treasurer.

Dr. Guy F. Hollifield

Has resigned from the University of Virginia medical faculty to become professor of internal medicine at Northwestern University Medical School. He will also be chairman of the department of medicine at Chicago Wesley Memorial Hospital, one of the teaching hospitals for Northwestern.

Dr. William M. Deyerle,

Richmond, will be one of the guest speakers at the annual meeting of the West Virginia Medical Association at The Greenbrier, White Sulphur Springs, August 25-27.

Special Psychiatric Training Programs.

Stipend $12,000.00 per year. Program A—designed for practicing physicians who wish to take one year of full time graduate study in psychiatry, and then return to practice. Program B—involves three full years of psychiatric residency and is designed to prepare candidate for specialty board examinations. Applicants for either of these programs must be in some form of practice other than psychiatry for a minimal period of four years excluding internship. Training program is eclectically oriented encompassing general psychiatry with elective programs and child psychiatry research, psychosomatic medicine and community psychiatry. Applications now being accepted for July, 1967. For further information write Dr. William M. Sheppe, Jr., Chairman, Graduate Training Committee, Box 267, University of Virginia Hospital, Charlottesville, Virginia. (*Adv.*)

Physician Wanted.

Internist to work twenty hours a week in Preventive Medicine in Richmond Industry. Write #85, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Physicians Wanted.

District Health Director A—Duties involve administration of State-local public health and medical assistance programs in a local health district serving less than 100,000 population. In-service training is provided, plus state-financed postgraduate study leading to Master Public Health Degree. Benefits include sick leave, vacation, group life insurance, malpractice insurance, travel reimbursement and retirement income. Qualifications—American citizen, eligibility to practice medicine in Virginia and two years of experience in general practice, public health or public-health-related practice (i.e., industry, military). Salary—$14,328 to $16,400 depending on qualifications.

District Health Director B—Duties involve administration of State-local public health and medical assistance programs in a local health district serving over 100,000 population. Benefits include sick leave, vacation, group life insurance, malpractice insurance, travel reimbursement and retirement income. Qualifications — American citizen, eligibility to practice medicine in

Virginia and Master Public Health Degree. Salary—$15,675 to $19,600 depending on qualifications.

For further information write R. W. Jessee, M.D., Director, Division of Local Health Services, Virginia State Department of Health, 1314 East Grace Street, Richmond, Virginia 23219. (*Adv.*)

Internist Wanted

In large Virginia City. Medical building joins hospital. Physicians independent but practice cooperatively. Assume practice of physician leaving for specialized training. Write #100, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

General Practitioner.

Group of three general practitioners in Richmond are interested in obtaining an associate to later become a partner. Phone Richmond BE 2-1108. (*Adv.*)

Excellent Opportunity

For general practitioner or internist. Untimely death of physician with large general practice makes available spacious, well-equipped offices (for rent or for sale) in the heart of Richmond's west end, with complete up-to-date card files. Large neighborhood practice based on convenient location and parking. Price and terms negotiable. Inquiries promptly answered by letter or phone. Contact #105, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries . . . .

Dr. Rack Foy Benthall,

Alexandria, died May 8th. He was seventy-four years of age and a graduate of the Medical College of Virginia in 1917. Dr. Benthal practiced in North Carolina before locating in Alexandria where he had been for thirty-five years. He had been a member of The Medical Society of Virginia for eleven years.

His wife, a son, a step-son and a step-daughter survive him.

Dr. Charles Lyndon Outland,

Richmond, died May 14, at the age of seventy-four. He was a graduate of the Medical College of Virginia in 1917 and was one of the first students in the Johns Hopkins School of Public Health. Dr. Outland served as medical director of the Richmond Public School for twenty-nine years. He came to Richmond in 1926 and served for six years as city epidemiologist. Dr. Outland began public health work in North Carolina in 1919 and he also served in Yugoslavia where he and his wife took charge of a hospital and relief station. In 1956 he made a survey of public health in Iraq under the auspices of the World Health Organization. Dr. Outland was a past president of the Richmond Academy of Medicine and had been a member of The Medical Society of Virginia since 1927.

His wife and a son survive him.

Dr. Thomas E. Haggerty,

Falls Church, died April 5, at the age of forty-five. He was a graduate in medicine from Georgetown University in 1948. Dr. Haggerty founded and served as first president of the Northern Virginia Academy of Ophthalmology and had served as president of the Fairfax County Medical Society. He was a member of The Medical Society of Virginia.

Dr. Haggerty served in the Army from 1946 to 1949, attaining the rank of Captain. In 1959, he was decorated by Pope Pius XII for his service to religious orders in the Washington area.

Dr. Jones.

Dr. Alfred Power Jones was born in Fredericksburg. He received his Bachelor of Arts Degree from Fredericksburg College in 1904 and his Doctor of Medicine Degree from the University of Virginia in 1910. Following internship at the University of Virginia, he served as instructor of Pathology at the University of Wisconsin for two years. He was then an instructor in surgery at Johns Hopkins Hospital and Assistant Resident and Resident at the Women's Hospital in Baltimore, Maryland, from whence he came to Roanoke.

Following active duty overseas during the First World War, he returned to Roanoke where he remained in the practice of gynecology and general surgery until his death. While he was primarily a gynecologist, he was also an able general surgeon, pathologist, and female urologist.

Dr. Jones was former President of the Roanoke Academy of Medicine and of the Southwest Virginia Medical Society. He was a member of the Southern Surgical Association, the American College of Surgeons, the Southern Medical Association, The Medical Society of Virginia and the American Medical Association. He was a diplomate of the American Board of Surgery.

He continued his extensive formal education by constant reading and studying all his life. He was a valuable member for many years of the Board of the Roanoke Public Library. His tastes were catholic and his memory unfailing. He was a raconteur of note and his store of anecdotes was immense. He always had an appropriate one for every occasion.

Dr. Jones was the son of a Presbyterian minister. There were many Presbyterian ministers in both his and his wife's families. He was an active member of the First Presbyterian Church where he served as Deacon from 1921 until he was made an Elder in 1929 a position he held for the rest of his life. He was a member of the pulpit, centennial, and many other church committees. He was a member of the Rotary Club and past president of the American Legion.

Dr. Jones was married to the former Elizabeth Lacy. In addition to his wife, he is survived by one son, who is a surgeon, and two daughters. Another son was killed in combat while in the Navy Air Corps during World War II.

WHEREAS, Dr. Jones was beloved by his many friends, professional confreres, and patients,

AND WHEREAS all people who knew him found him a delightful companion and devoted friend;

THEREFORE, BE IT RESOLVED that the Roanoke Academy of Medicine express gratitude for his earthly presence, deep regret in his passing, sympathy to his family, and that a copy of this resolution be recorded in the minutes of the Roanoke Academy of Medicine and a copy be forwarded to the Virginia Medical Monthly and to his surviving family.

HUGH H. TROUT, JR., M.D.
GEORGE S. HURT, M.D.
MORTIMER WILLIAMS, M.D.

Dr. Shaver.

On January 26, 1966, Jack Stone Shaver was called to an early reward by his Maker. Born in Mauertown, Shenandoah County, Virginia, November 22, 1920, he attended the public schools of Woodstock, Massanutten Military Academy, Roanoke College and the Medical College of Virginia.

He entered the U. S. Army while still a medical student in 1943 and was discharged as a Captain in 1945. He served his internship at the U. S. Marine Hospital, Norfolk. Jack continued his interest in the National Guard and had attained the rank of Major at the time of his death. He was greatly interested in the Guards' activities and participated with considerable interest.

After completing his internship, Jack established private practice at Big Rock, Buchanan County, where he remained about eighteen months. In 1950, he moved to Elizabethton, Tennessee.

At the request of his many friends, he returned to his home area, Woodstock and Mauertown, in 1956. He continued to practice here until 1964, when a coronary thrombosis curtailed his activities.

Always an ardent nature lover, Jack became an expert on birds while convalescing. This hobby was to be quite a comfort to him and of much interest to his friends.

A past-president of the Staff of Shenandoah County Hospital of Woodstock, and a devoted worker for this Institution, shortly after coming to Waynesboro, he was put to work on committees of the Waynesboro Community Hospital Staff and was Secretary of the Valley Medical Society in which he was quite active. He had been an untiring worker for the American Academy of General Practice.

On August 1, 1964, Jack joined the Staff of the Medical Section of the Waynesboro Works of E. I. du Pont de Nemours & Company, Inc., where he was employed at the time of his death.

He is survived by his wife, two sons, a sister, his mother and father.

The medical profession has suffered a major catastrophe in Jack's untimely death.

The members of the Augusta County Medical Society wish to express to his family its deepest sympathy and resolves that this communication be spread upon the minutes of its meeting, published in the Virginia Medical Monthly and copies sent to members of his family.



when readings indicate hypertension

Time for Naturetin®

SQUIBB BENDROFLUMETHIAZIDE

to reduce blood pressure

In the management of your hypertensive patients, Naturetin is good therapy to start with, good therapy to stay with.

In mild hypertension, Naturetin lowers blood pressure gradually toward normotensive levels. In long-term therapy, Naturetin may keep blood pressure low—for months, sometimes years. When used in combination with other antihypertensive agents, blood pressure often falls further—and lower doses of both drugs are usually possible.

Clinical trials have proven Naturetin effective—without serious side effects.[1,2] And, when used to treat patients with cardiac edema and hypertension, "in no instance did the concentration of serum potassium fall below 3.1 mEq. per liter."[3] (Normal range for serum potassium: 3.5-5.0 mEq./liter).[4]

When readings indicate hypertension, start with Naturetin, stay with Naturetin.

Contraindications: Severe renal impairment; previous hypersensitivity.

Warning: Ulcerative small bowel lesions have occurred with potassium-containing thiazide preparations or with enteric-coated potassium salts supplementally. Stop medication if abdominal pain, distension, nausea, vomiting, or G.I. bleeding occur.

Precautions: The dosage of ganglionic blocking agents, veratrum, or hydralazine when used concomitantly must be reduced by at least 50% to avoid orthostatic hypotension. Electrolyte disturbances are possible in cirrhotic or digitalized patients.

Side Effects: Bendroflumethiazide may cause increases in serum uric acid, unmask diabetes, increase glycemia and glycosuria in diabetic patients and may cause hypochloremic alkalosis, hypokalemia; cramps, pruritus, paresthesias, and rashes may occur.

Supplied: Naturetin (Squibb Bendroflumethiazide) 5 mg. and 2.5 mg. tablets. Also available—Naturetin c K [Squibb Bendroflumethiazide (5 or 2.5 mg.) with Potassium Chloride (500 mg.)]. For full information, see Product Brief.

References: 1. Telfeyan, S. A.: Clin. Med. 70:1668, 1963. 2. Shepard, H. L.: J. Am. Geriatrics Soc. 11:363, 1963. 3. Cummings, D. E.; Goodman, R. M., and Steigmann, F.: J. Am. Geriatrics Soc. 12:161, 1964. 4. Castleman, B., ed.: New England J. Med. 268:1462, 1963.

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Squibb Quality
—the Priceless Ingredient

in diarrhea

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Tablets
Liquid

Each tablet and each 5 cc. of liquid contains:
diphenoxylate hydrochloride . . . . 2.5 mg.
(Warning: May be habit forming)
atropine sulfate . . . . . 0.025 mg.



is a corker

Effectiveness: Lomotil possesses a unique degree of effectiveness in both acute and chronic diarrhea.

Convenience: Lomotil is supplied as small, easily carried, easily swallowed tablets and as a pleasant, fruit-flavored liquid.

Versatility: The therapeutic efficiency, safety and convenience of Lomotil may be used to advantage alone or as adjunctive therapy in diarrhea associated with:

- **Ulcerative colitis**
- **Acute infections**
- **Irritable bowel**
- **Regional enteritis**
- **Drug therapy**
- **Food Poisoning**
- **Functional hypermotility**
- **Malabsorption syndrome**
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- **Gastroenteritis and colitis**

Dosage: For full therapeutic effect—Rx full therapeutic dosage. The recommended initial daily dosages, given in divided doses, until diarrhea is controlled, are:

Children: 3 to 6 months — 3 mg. (½ tsp.* t.i.d.)
6 to 12 months — 4 mg. (½ tsp. q.i.d.)
1 to 2 years — 5 mg. (½ tsp. 5 times daily)
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5 to 8 years — 8 mg. (1 tsp. q.i.d.)
8 to 12 years —10 mg. (1 tsp. 5 times daily)

Adults: 20 mg. (2 tsp. 5 times daily or 2 tablets 4 times daily)

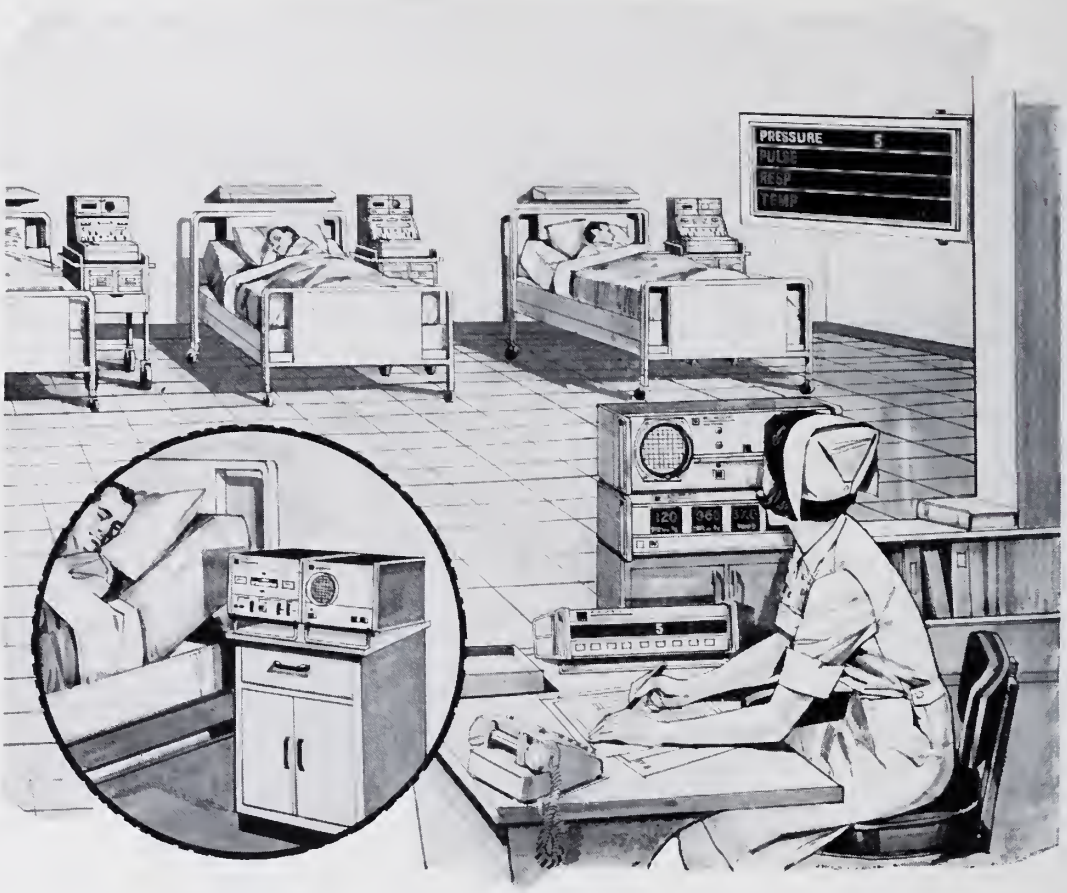
*Based on 4 cc. per teaspoonful.

Maintenance dosage may be as low as one-fourth the therapeutic dose.

Precautions: Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is a Federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. The subtherapeutic amount of atropine is added to discourage deliberate overdosage.

Side Effects: Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.

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helps restore normal motility and tone

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IN BRIEF: One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth or blurring of vision may occur but it is usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy—withhold in glaucoma. Cantil with Phenobarbital is contraindicated in patients sensitive to phenobarbital.

Supplied: CANTIL (mepenzolate bromide)—25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL—containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

1. Riese, J. A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

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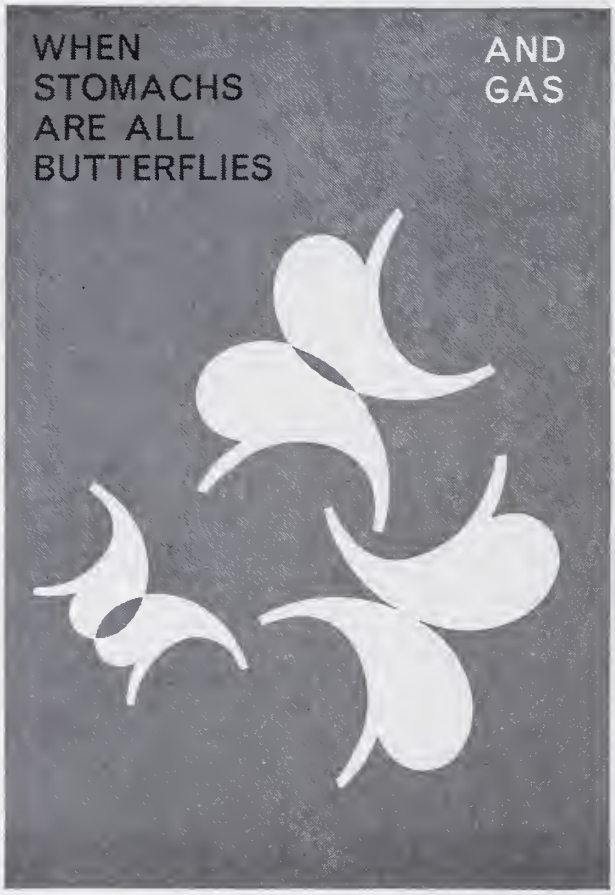
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Each tablet contains:
Dactil® (piperidolate hydrochloride), 50 mg.;
Standardized cellulolytic* enzyme, 2 mg.;
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Pancreatin 3X** (source of lipolytic activity), 100 mg.; Taurocholic acid, 15 mg.

*Need in human nutrition not established.
**As acid resistant granules equivalent in activity to 300 mg. Pancreatin N.F.



In chronic or acute indigestion, fluttery, gassy stomachs obtain prompt, gratifying relief through the antispasmodic, surface anesthetic and enzymatic activity of Dactilase. Dactilase decreases hypermotility and pain and reduces the production of gas. Dactilase does not induce stasis, but helps restore normal tone. It has little or no effect on enzyme secretions, but *adds* enzymes, thus contributing to the digestive efficiency of the patient.

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Side effects: Occasional lightheadedness or transient itching which may disappear with continued use. There are no known contraindications; however, caution is advised when there is a concomitant administration of a coronary vasodilator.

Supplied: Packages of 50 chewable tablets.

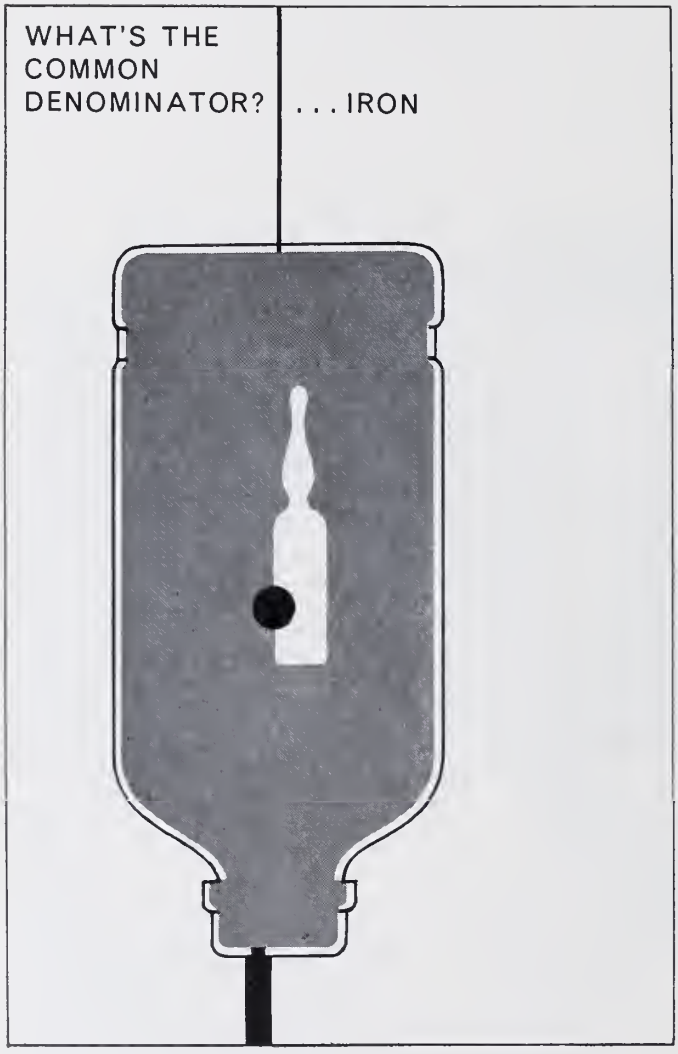
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...in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood.
When iron deficient patients are intolerant of oral iron...or orally administered iron proves ineffective or impractical...or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves.



IMFERON®
(iron dextran injection)

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a *source of iron;* infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylatoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4; 10 cc. multiple dose vials.

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METAHYDRIN (trichlormethiazide) is prescribed by physicians because it not only approximates the diuretic efficacy of parenteral meralluride injection . . . but, *it is the least expensive of all "brand-name" thiazides*. Therefore, when you prescribe METAHYDRIN (trichlormethiazide) your patients receive the thiazide diuretic that removes a little more salt and water than earlier thiazides, with relatively less loss of potassium . . . and, it's therapy they can more easily afford . . . *only pennies a day.*

METAHYDRIN®

(trichlormethiazide)

oral diuretic

Dosage: One 2 or 4 mg. tablet once or twice daily.

Precautions: As with all effective diuretics, vigorous therapy may produce electrolyte depletion. Patients with severely reduced renal function should be observed carefully since thiazides may be contraindicated. Care should be taken with patients predisposed to diabetes or gout. Patients with a tendency to potassium deficiency, as in hepatic cirrhosis or diarrheal syndromes, or those under therapy with digitalis, ACTH, or certain adrenal steroids, also should be watched carefully.

Side Effects: Nausea, flushing, constipation, skin rash, muscle cramps and gastric discomfort have occasionally been noted; rarely thrombocytopenia and bone marrow depression, photosensitivity, cholestatic jaundice, pancreatitis, perimacular edema, gout and diabetes have been caused by the administration of thiazides.

Contraindications: Complete renal shutdown; rising azotemia or development of hyperkalemia or acidosis in severe renal disease; demonstrated hypersensitivity.

How Supplied: Bottles of 100 and 1000 tablets.

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AND
KEEP IT DOWN



Metatensin lowers blood pressure and keeps it low—effectively and economically. It combines reserpine with trichlormethiazide which affords more potent saluresis with less loss of potassium than from earlier thiazides. Reserpine contributes antihypertensive effect by relieving anxiety and tension. Metatensin is well-tolerated over long periods; with its effectiveness and economy it assures antihypertensive therapy you and your patients can stay with.

METATENSIN®

Each scored tablet contains:
METAHYDRIN® (trichlormethiazide)
2 mg. or 4 mg. and
Reserpine 0.1 mg.

Usual adult dose: One tablet twice daily. **Precautions and side effects:** Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing steroids, should be observed for signs of hypokalemia. With thiazides, electrolyte depletion, diabetes, gout, granulopenia, nausea, pancreatitis, cholestatic jaundice, flushing, mild muscle cramps, constipation, photosensitivity, acute myopia, perimacular edema, paresthesias, neonatal bone marrow depression in infants of mothers who received thiazides during pregnancy, skin rash or purpura with or without thrombocytopenia, may occur. With reserpine, untoward effects may include depression, peptic ulcer and bronchial asthma. Withdraw medication at least 7 days prior to electroshock therapy, 2 weeks prior to elective surgery.

Contraindications: Complete renal shutdown, rising azotemia or development of hyperkalemia or acidosis in severe renal disease.

Supplied: Metatensin tablets, 2 mg., 4 mg.—bottles of 100 and 1000.

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ANTIDEPRESSANT

restores normal patterns of sleep and activity

Norpramin (desipramine hydrochloride) reverses the signs and symptoms of depression including sleep disturbances, feeling of sadness, guilt, worthlessness, anxiety and bodily complaints without physical basis. In 2-5 days most patients become more hopeful, more active and less weighed down by their problems.

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Indications: In moderate to severe depression—neurotic or psychotic. **Dosage:** Optimal results are obtained at a dosage of two 25 mg. tablets t.i.d. (150 mg./day). **Contraindications and Precautions:** Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease and epilepsy. Should not be given within two weeks of an MAO inhibitor. Safety in human pregnancy has not been established. **Adverse Effects:** Usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste", sensory illusion, tinnitus, agitation and stimulation, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, allergy, transient eosinophilia, granulopenia, altered liver function, ataxia and extrapyramidal signs. **Supplied:** Norpramin (desipramine hydrochloride) tablets of 25 mg., in bottles of 50, 500 and 1000.

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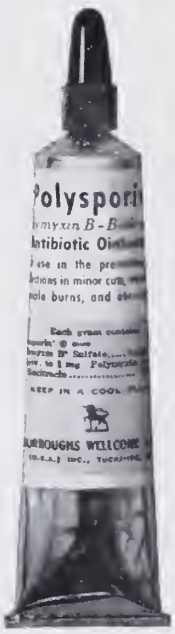
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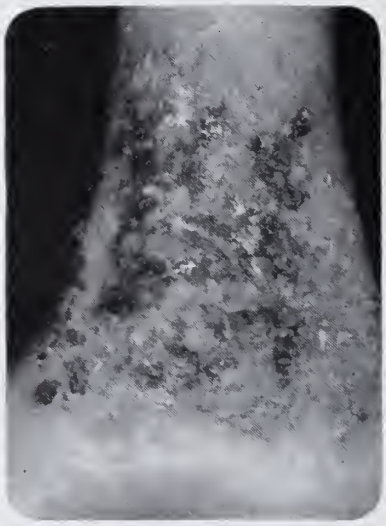
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*Mas, V., and Dawson, A.:
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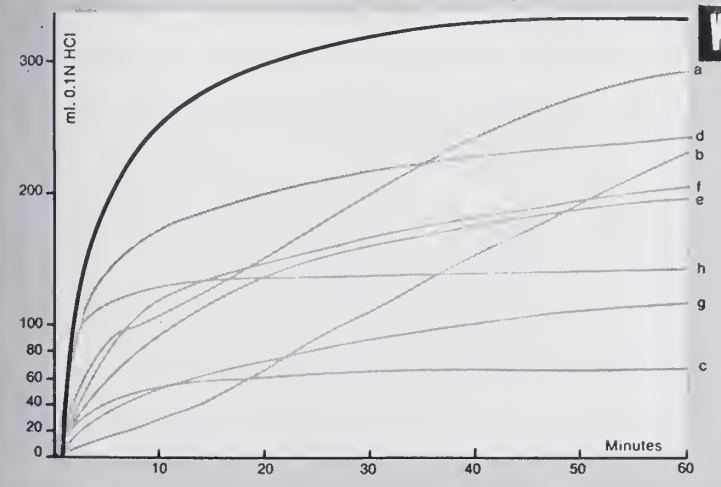
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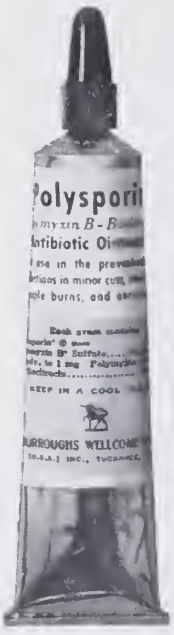
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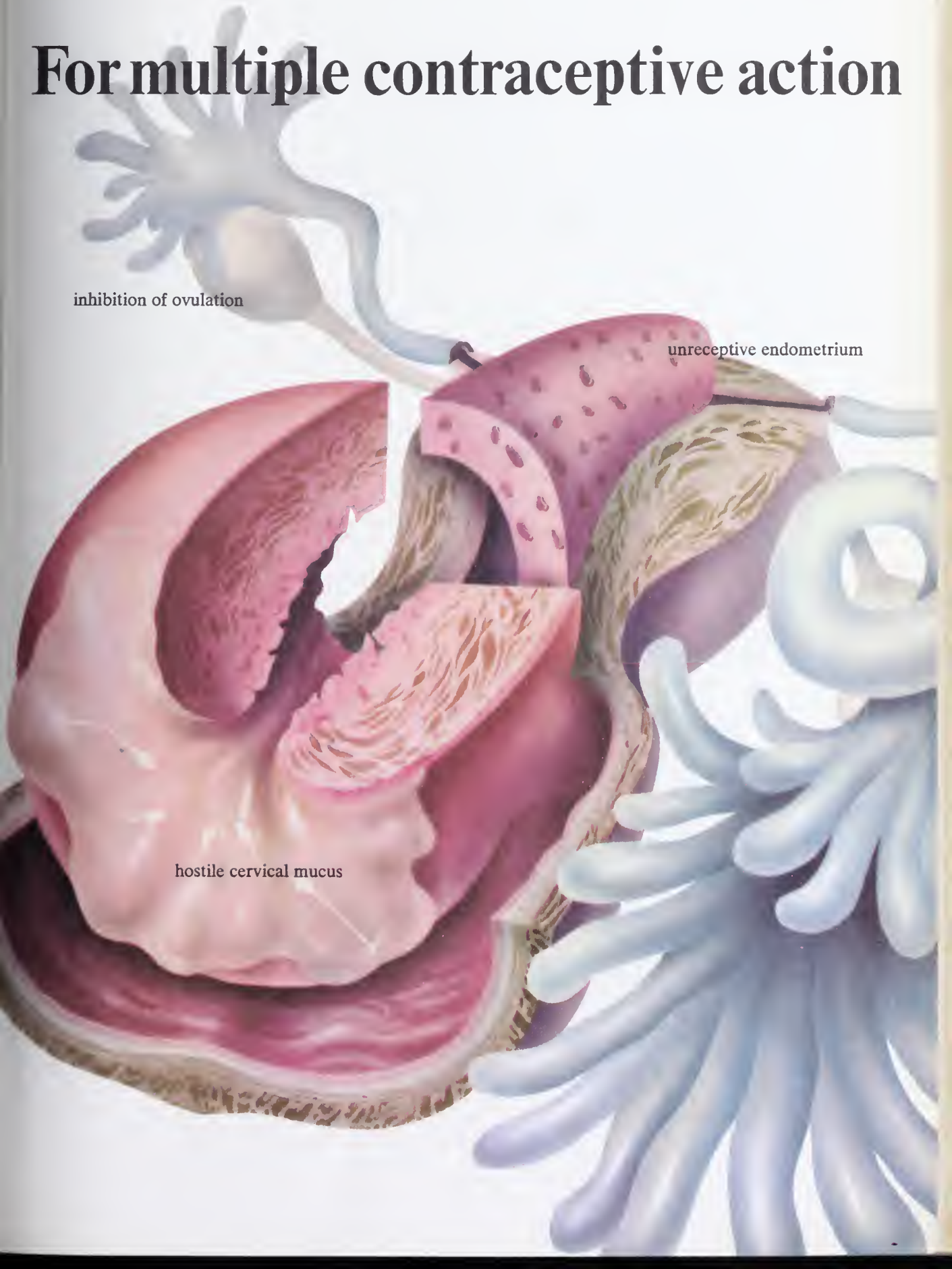
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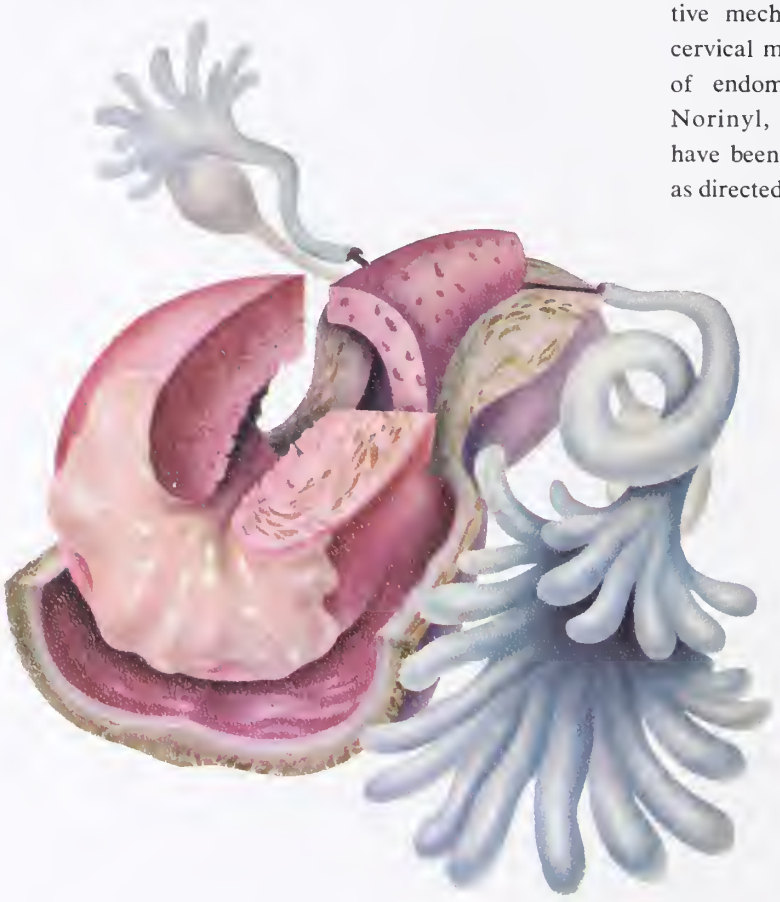
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Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.

Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

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Rauwolfia combined with bendroflumethiazide is particularly effective in long-term therapy,[15-17] since beneficial effects do not diminish with continuous daily administration.

For most patients 1 or 2 Rautrax-N tablets daily are sufficient for maintenance therapy. The simplicity, convenience and economy of such a dosage schedule are of particular benefit to older patients.

References: 1. Page, I. H., and Dustan, H. P.: The Usefulness of Drugs in the Treatment of Hypertension, in Ingelfinger, F. J.; Relman, A. S., and Finland, M.: Controversy in Internal Medicine, Philadelphia, W. B. Saunders Co., 1966, p. 95. **2.** Hollander, W.: The Evaluation of Antihypertensive Therapy of Essential Hypertension in Ingelfinger, F. J.; Relman, A. S., and Finland, M.: Controversy in Internal Medicine, Philadelphia, W. B. Saunders Co., 1966, p. 97. **3.** Nickerson, M.: Antihypertensive Agents and the Drug Therapy of Hypertension, in Goodman, L. S., and Gilman, A.: The Pharmacological Basis of Therapeutics, ed. 3, New York, The Macmillan Co., 1965, p. 727. **4.** Berkson, D. M.: Indust. Med. & Surg. **32**:371, 1963. **5.** Cohen, B. M.: M. Times **91**:645, 1963. **6.** Lee, R. E., et al.: Am. J. Cardiol. **11**:738, 1963. **7.** Moyer, J. H.: Am. J. Cardiol. **9**:821, 1962. **8.** Moser, M.: New York J. Med. **62**:1177, 1962. **9.** Wood, J. E., and Battey, L. L.: Am. J. Cardiol. **9**:675, 1962. **10.** Moyer, J. H., and Heider, C.: Am. J. Cardiol. **9**:920, 1962. **11.** Moser, M., and Macaulay, A. I.: New York State J. Med. **60**:2679, 1960. **12.** Judson, W. E.: Nebraska M. J. **44**:305. 1959. **13.** Hodge, J. V.; McQueen, E. G., and Smirk, H.: Brit. M. J. **1**:5218, 1961. **14.** Moyer, J. H., and Brest, A. N.: Hypertension Recent Advances, Philadelphia, Lea & Febiger, 1961, p. 633. **15.** Berry, R. L., and Bray, H. P.: J. Am. Geriatrics Soc. **10**:516, 1962. **16.** Reid, W. J.: J. Am. Geriatrics Soc. **13**:365, 1965. **17.** Feldman, L. H.: North Carolina M. J. **23**:248, 1962.

Contraindications: Severe renal impairment or previous hypersensitivity. **Warning:** Ulcerative small bowel lesions have occurred with potassium-containing thiazide preparations or with enteric-coated potassium salts supplementally. Stop medication if abdominal pain, distension, nausea, vomiting or G.I. bleeding occur.

Precautions and Side Effects: The dose of ganglionic blocking agents, veratrum or hydralazine when used concomitantly must be reduced by at least 50% to avoid orthostatic hypotension. Caution is indicated in patients with depression, suicidal tendencies, peptic ulcer; electrolyte disturbances are possible in cirrhotic or digitalized patients. Marked hypotension during surgery is possible; consider discontinuing two weeks prior to elective surgery and observe patients closely during emergency surgery. Rauwolfia preparations may cause reversible extrapyramidal symptoms and emotional depression, diarrhea, weight gain, edema, drowsiness may occur. Bendroflumethiazide may cause increases in serum uric acid, unmask diabetes, increase glycemia and glycosuria in diabetic patients, and may cause hypochloremic alkalosis, hypokalemia; cramps, pruritus, paresthesias, rashes may occur.

Dosage and Supply: Initial dosage, 1 to 4 tablets daily, preferably at mealtime. Maintenance, 1 or 2 tablets daily. Rautrax-N is supplied as capsule-shaped tablets containing 50 mg. Rauwolfia serpentina whole root (Raudixin®), 4 mg. bendroflumethiazide (Naturetin®), 400 mg. potassium chloride.

Also available: Rautrax-N Modified — capsule-shaped tablets containing 50 mg. Rauwolfia serpentina whole root (Raudixin), 2 mg. bendroflumethiazide (Naturetin), 400 mg. potassium chloride. Both potencies available in bottles of 100. For full information, see Product Brief.

RAUTRAX®-N

Squibb Rauwolfia Serpentina Whole Root (50 mg.) with Bendroflumethiazide (4 mg.) and Potassium Chloride (400 mg.)

SQUIBB

'The Priceless Ingredient' of every product is the honor and integrity of its maker.

"I like Bronkometer... I breathe better... don't get the jitters."

Patients feel relaxed with Bronkometer. Its bronchodilator-decongestant action has minimal central nervous system stimulation.[1] Isoetharine,* Breon's exclusive bronchodilator, shows only 1/16 to 1/64 the cardiotonic effect of isoproterenol.[2] *Dilabron®, brand of isoetharine



BRONKOMETER® ASTHMA, CHRONIC BRONCHITIS, EMPHYSEMA

isoetharine 0.6%; phenylephrine 0.125%; thenyldiamine 0.05%—Superior because it contains isoetharine

COMPOSITION: Bronkometer delivers at the mouthpiece 200 metered doses of: 350 mcg isoetharine methanesulfonate (0.6%); 70 mcg phenylephrine HCl (0.125%); and 30 mcg thenyldiamine HCl (0.05%) with saccharin, menthol and fluorochlorohydrocarbons as inert propellants. Preserved with ascorbic acid 0.1% and alcohol 30%.

RECOMMENDED DOSAGE: One or two inhalations with at least one minute between inhalations. Occasionally more may be required, however in most cases, inhalations need not be repeated more than every four hours. Dosage should be adjusted to the severity of the condition and to patient's response.

PRECAUTIONS: Bronkometer is unusually free from cardiovascular and other side effects, but the usual precautions associated with sympathomimetic amines should be observed. Bronkometer should not be administered simultaneously with epinephrine or similar compounds because of the possibility of tachycardia, although it may be alternated with these agents. Dosage must be carefully adjusted in patients with hyperthyroidism, hypertension, acute coronary disease, cardiac asthma, limited cardiac reserve and in individuals sensitive to sympathomimetic amines.

SUPPLIED: 10 ml pressurized aerosol vials complete with measured dose valve and oral nebulizer.

References: 1. Spielman, A. D.: *Curr. Therap. Res.* 3:235 (June) 1961. 2. Herschfus, J. A.; Bresnick, E.; Levinson, L.; and Segal, M. S.: *Ann. Allergy* 9:769 (Nov.-Dec.) 1951.

BREON **BREON LABORATORIES INC.** 90 Park Avenue, New York, N.Y. 10016



Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

Valentine's
MEAT EXTRACT

stimulates the appetite,

increases the flow of digestive juices,

provides: supplementary amounts of vitamins, minerals and soluble proteins,

extra-dietary vitamin B_{12},

protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA

Bamadex® Sequels®

Contraindications: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised; especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of pre-existing symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dose—operation of motor vehicles, machinery or other activity requiring alertness should be avoided. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia, the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor, and respiratory collapse.



First aid for a button popper



Second aid for a button popper

Bamadex® Sequels®

d-amphetamine sulfate (15 mg.) and meprobamate (300 mg.)
Sustained Release Capsules

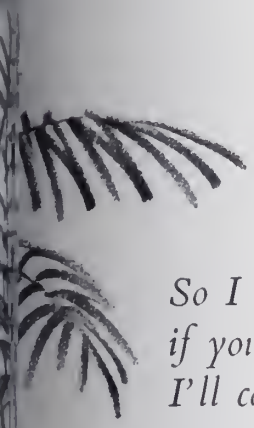
By providing combined anorexigenic-tranquilizing action, BAMADEX SEQUELS Capsules help your nonshrinking patients to establish new patterns of eating less. The amphetamine component suppresses the appetite, while the meprobamate helps allay nervousness and tension. And for most patients, the *sustained* release of the active ingredients makes possible convenient one-capsule-a-day dosage.

LEDERLE LABORATORIES · A Division of American Cyanamid Company, Pearl River, New York

Lederle

6655





So I said, "All right, Raymond,
if you don't take your cough medicine this minute,
I'll call Doctor Peabody."

Controlling the child is sometimes as big a problem as controlling his cough. But with most children and with most coughs, the job is usually much easier with one of these effective Novahistine formulas.

If it's the useless, exhausting type of cough that often accompanies respiratory infection or allergy, you can provide prompt relief with Novahistine DH. Its decongestant-antitussive action controls frequency and intensity of cough spasms without abolishing cough reflex. And the fresh grape flavor of Novahistine DH appeals to children and adults alike.

When your diagnosis is bronchitis, complicated by thick tenacious exudates, Novahistine Expectorant is particularly useful. It not only provides decongestive action and controls the cough, but also encourages expectoration, thus easing bronchial obstruction.

Use with caution in patients with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Ambulatory patients should be advised that drowsiness may result. Continuous dosage over an extended period is contraindicated since codeine phosphate may cause addiction.

Each 5 ml. teaspoonful of Novahistine DH contains codeine phosphate, 10 mg. (Warning: may be habit forming); phenylephrine hydrochloride, 10 mg.; chlorpheniramine maleate, 2 mg.; chloroform (approx.), 13.5 mg.; l-menthol, 1 mg. (Alcohol 5%). Each 5 ml. of Novahistine Expectorant contains the above ingredients and, in addition, glyceryl guaiacolate, 100 mg.

NOVAHISTINE® DH
NOVAHISTINE® EXPECTORANT

DOW **PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis

Frankly, most antihypertensives are pretty good if you give an adequate dose. I'm looking for one with a simple regimen so that mix-ups in doses and therefore the chance of side effects are minimized.



Regroton®

chlorthalidone 50 mg. reserpine 0.25 mg.

1 tablet daily brings pressure down

Advantage: Both components of Regroton are long-acting.
Average dosage: One tablet daily with breakfast.
Contraindications: History of mental depression, hypersensitivity, and most cases of severe renal or hepatic diseases.
Warning: Discontinue 2 weeks before general anesthesia, 1 week before electroshock therapy, and if depression or peptic ulcer occurs. With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.
Precautions: Reduce dosage of concomitant antihypertensive agents by one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take particular care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended. Use with caution in patients with ulcerative colitis, gallstones, or bronchial asthma.
Side effects: Nausea, vomiting, diarrhea, muscle cramps, headaches and dizziness. Potential side effects include angina pectoris, anxiety, depression, drowsiness, hyperglycemia, hyperuricemia, lassitude, leukopenia, nasal stuffiness, nightmare, purpura, urticaria, and weakness.
For full details, see the complete prescribing information.
Availability: Bottles of 100 and 1000 tablets.

Geigy

Doctor,

Here is the Abbott anorectic program designed to meet the individual needs of your overweight patients.



mood elevation

Abbot
Anorecti
Prograr

DESOXYN® Gradumet® (methamphetamine hydrochloride)

Smooth appetite control plus mood elevation.

The obese patient on a diet often has to battle depression as well as overweight. Desoxyn Gradumet helps the dieter in both battles by elevating the mood while it curbs the appetite. Thanks to the Gradumet, medication is smoothly released all-day from a single oral dose.

If she can't take plain amphetamine, put her on DESBUTAL® Gradumet

Calms anxieties; controls compulsive eating.

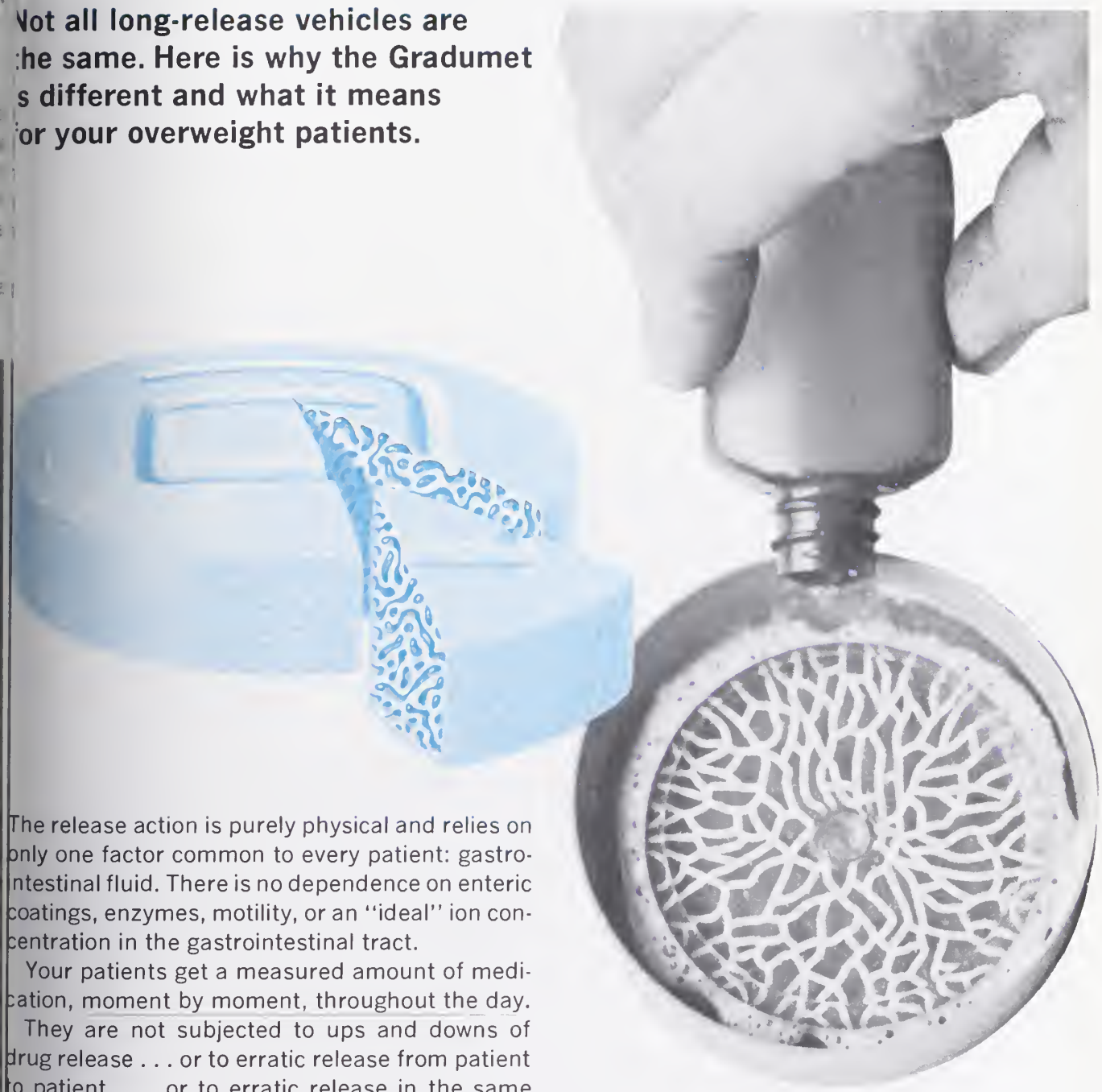
Desbutal Gradumet provides 2 drugs in 2 table sections, combined back to back to form a singl tablet. One section contains Desoxyn to curb th appetite and lift the mood; the other contain Nembutal® (pentobarbital) to calm the patient an counteract any excessive stimulation.

Both drugs are released in an effective dosag ratio throughout the day.



controlled release

Not all long-release vehicles are the same. Here is why the Gradumet is different and what it means for your overweight patients.



The release action is purely physical and relies on only one factor common to every patient: gastrointestinal fluid. There is no dependence on enteric coatings, enzymes, motility, or an "ideal" ion concentration in the gastrointestinal tract.

Your patients get a measured amount of medication, moment by moment, throughout the day. They are not subjected to ups and downs of drug release . . . or to erratic release from patient to patient . . . or to erratic release in the same patient from day to day.

That's why the Gradumet provides controlled-release as well as long release.

Perhaps you saw the Gradumet model demonstration which shows that the release is entirely physical. When fluid is added, the drug in the outer ends of the channels dissolves. As fluid penetrates deeper into the channels, there is a continuous release of medication. The rate of release is rigidly controlled by the size and number of channels.

choice of 5 strengths

Abbott Anorectic Program

DESOXYN Gradumet

Methamphetamine Hydrochloride in Long-Release Dose Form

5 mg. 10 mg. 15 mg.

DESBUTAL 10 Gradumet

10 mg. Methamphetamine Hydrochloride,
60 mg. Pentobarbital Sodium

Front Side

DESBUTAL 15 Gradumet

15 mg. Methamphetamine Hydrochloride,
90 mg. Pentobarbital Sodium

Front Side

samples available



Each sample contains 6 tablets and a filled Sucaryl® Sweetener dispenser. For a supply, write Abbott Laboratories or ask your Abbott man.



economy

Patients, in many cases, save enough to get five weeks of medication for the price of four, compared to other leading long-release anorectics.

CONTRAINDICATION: Desoxyn and Desbutal are contraindicated in patients taking a monoamine oxidase inhibitor.

PRECAUTIONS: Use with caution in patients with hypertension, cardiovascular disease, hyperthyroidism, old age, or those sensitive to sympathomimetic drugs or ephedrine and its derivatives. Careful supervision is advisable with maladjusted individuals.

ABBOTT

Gradumet—long-release dose form, Abbott: U.S. Pat. No. 2,987,445.
Sucaryl—Abbott brand of low and non-caloric sweeteners.

601060

"In 40 of 44 cases of irritable or spastic colon, Cantil [mepenzolate bromide] or Cantil with Phenobarbital reduced or abolished abdominal pain, diarrhea and distention and promoted restoration of normal bowel function . . . Cantil [mepenzolate bromide] proved to be singularly free of anticholinergic side-effects . . . Urinary retention, noted in two cases was eliminated in one by reducing dosage."[1]

CHARMS THE HYPERACTIVE COLON



CANTIL®

(mepenzolate bromide)

helps restore normal motility and tone

IN BRIEF:

One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth or blurring of vision may occur but it is usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy—withhold in glaucoma. Cantil with Phenobarbital is contraindicated in patients sensitive to phenobarbital.

Supplied: CANTIL (mepenzolate bromide) —25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL —containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

1. Riese, J.A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

DACTILASE®

Each tablet contains:
Dactil® (piperidolate hydrochloride), 50 mg.;
Standardized cellulolytic* enzyme, 2 mg.;
Standardized amylolytic enzyme, 15 mg.;
Standardized proteolytic enzyme, 10 mg.;
Pancreatin 3X** (source of lipolytic activity), 100 mg.; Taurocholic acid, 15 mg.

*Need in human nutrition not established.
**As acid resistant granules equivalent in activity to 300 mg. Pancreatin N.F.



In chronic or acute indigestion, fluttery, gassy stomachs obtain prompt, gratifying relief through the antispasmodic, surface anesthetic and enzymatic activity of Dactilase. Dactilase decreases hypermotility and pain and reduces the production of gas. Dactilase does not induce stasis, but helps restore normal tone. It has little or no effect on enzyme secretions, but *adds* enzymes, thus contributing to the digestive efficiency of the patient.

Side Effects and Contraindications: Dactilase is almost entirely free of side effects. However, it should be withheld in glaucoma and in jaundice due to complete biliary obstruction.

Administration and Dosage: One tablet with, or immediately following, each meal. Tablets should be swallowed whole.

Supplied: Bottles of 60 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE

PRODUCTS
FOR PATIENTS
YOU SEE
EVERY DAY

For cold hands and feet, nothing beats hot stoves—but they *are* awkward to carry around. Now Gerilid, in good-tasting take-along chewable tablets can provide rapid vasodilation of peripheral circulation, bringing real warmth to the extremities and decreasing sensitivity to sudden temperature change. Patients *like* Gerilid and *know* they are getting relief.

WARMTH
FOR COLD
HANDS AND FEET



GERILID™

Each chewable tablet contains:
nicotinic acid (niacin) 75 mg. and
aminoacetic acid (glycine) 750 mg.

Administration and Dosage: One or two chewable tablets 3 times a day before meals. If flushing is objectionable, dosage may be lowered. However, tolerance to flushing usually develops without loss of efficacy in regard to vasodilation. The recommended dosage should not be exceeded.

Side effects: Occasional lightheadedness or transient itching which may disappear with continued use. There are no known contraindications; however, caution is advised when there is a concomitant administration of a coronary vasodilator.

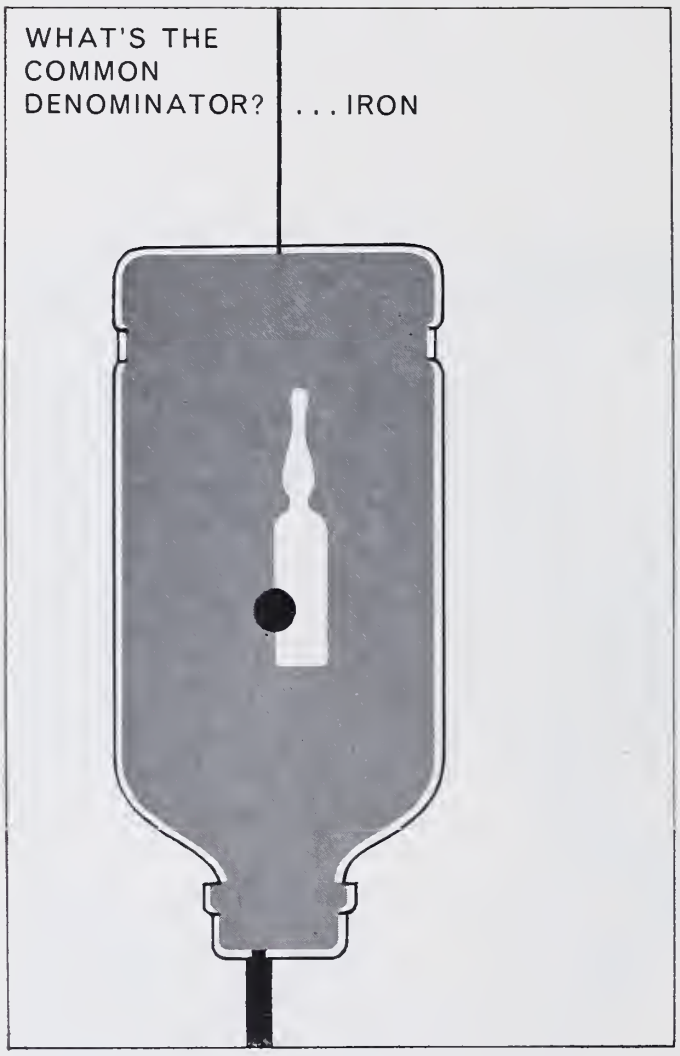
Supplied: Packages of 50 chewable tablets.

Also available in liquid form as Geriliquid®, in bottles of 8 and 16 ounces.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

In fact, there's as much iron...250 mg.
...in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood.
When iron deficient patients are intolerant of oral iron...or orally administered iron proves ineffective or impractical...or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves.



IMFERON®
(iron dextran injection)

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a source *of iron;* infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylatoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4; 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

METAHYDRIN (trichlormethiazide) is prescribed by physicians because it not only approximates the diuretic efficacy of parenteral meralluride injection . . . but, *it is the least expensive of all "brand-name" thiazides*. Therefore, when you prescribe METAHYDRIN (trichlormethiazide) your patients receive the thiazide diuretic that removes a little more salt and water than earlier thiazides, with relatively less loss of potassium . . . and, it's therapy they can more easily afford . . . *only pennies a day*.



METAHYDRIN®

(trichlormethiazide)

oral diuretic

Dosage: One 2 or 4 mg. tablet once or twice daily.

Precautions: As with all effective diuretics, vigorous therapy may produce electrolyte depletion. Patients with severely reduced renal function should be observed carefully since thiazides may be contraindicated. Care should be taken with patients predisposed to diabetes or gout. Patients with a tendency to potassium deficiency, as in hepatic cirrhosis or diarrheal syndromes, or those under therapy with digitalis, ACTH, or certain adrenal steroids, also should be watched carefully.

Side Effects: Nausea, flushing, constipation, skin rash, muscle cramps and gastric discomfort have occasionally been noted; rarely thrombocytopenia and bone marrow depression, photosensitivity, cholestatic jaundice, pancreatitis, perimacular edema, gout and diabetes have been caused by the administration of thiazides.

Contraindications: Complete renal shutdown; rising azotemia or development of hyperkalemia or acidosis in severe renal disease; demonstrated hypersensitivity.

How Supplied: Bottles of 100 and 1000 tablets.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

BRING IT DOWN AND KEEP IT DOWN



Metatensin lowers blood pressure and keeps it low—effectively and economically. It combines reserpine with trichlormethiazide which affords more potent saluresis with less loss of potassium than from earlier thiazides. Reserpine contributes antihypertensive effect by relieving anxiety and tension. Metatensin is well-tolerated over long periods; with its effectiveness and economy it assures antihypertensive therapy you and your patients can stay with.

METATENSIN®

Each scored tablet contains:
METAHYDRIN® (trichlormethiazide)
2 mg. or 4 mg. and
Reserpine 0.1 mg.

Usual adult dose: One tablet twice daily. **Precautions and side effects:** Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing steroids, should be observed for signs of hypokalemia. With thiazides, electrolyte depletion, diabetes, gout, granulopenia, nausea, pancreatitis, cholestatic jaundice, flushing, mild muscle cramps, constipation, photosensitivity, acute myopia, perimacular edema, paresthesias, neonatal bone marrow depression in infants of mothers who received thiazides during pregnancy, skin rash or purpura with or without thrombocytopenia, may occur. With reserpine, untoward effects may include depression, peptic ulcer and bronchial asthma. Withdraw medication at least 7 days prior to electroshock therapy, 2 weeks prior to elective surgery.

Contraindications: Complete renal shutdown, rising azotemia or development of hyperkalemia or acidosis in severe renal disease.

Supplied: Metatensin tablets, 2 mg., 4 mg.—bottles of 100 and 1000.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

When depressed patients say:





"I'm tired all day long"

NORPRAMIN®
(desipramine hydrochloride)
non-sedating · rapid-acting
ANTIDEPRESSANT

helps restore normal patterns of sleep and activity

Norpramin (desipramine hydrochloride) often reverses the signs and symptoms of depression including sleep disturbances feeling of sadness, guilt, anxiety, worthlessness and bodily complaints without physical basis. In 2-5 days most patients become more hopeful, active and less weighed down by their problems.

Norpramin (desipramine hydrochloride) has only slight sedative qualities, nevertheless sleep disturbances and restlessness are relieved as depression is lifted. If anxiety or tension develop or persist a tranquilizer may be added or dosage reduced. Side effects are usually mild, occurring in about 1 of 4 patients.

Indications: In moderate to severe depression—neurotic or psychotic. **Dosage:** Optimal results are obtained at a dosage of two 25 mg. tablets t.i.d. (150 mg./day). **Contraindications and Precautions:** Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease and epilepsy. Should not be given within two weeks of an MAO inhibitor. Safety in human pregnancy has not been established. **Adverse Effects:** Usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste", sensory illusion, tinnitus, agitation and stimulation, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, allergy, transient eosinophilia, granulopenia, altered liver function, ataxia and extrapyramidal signs. **Supplied:** Norpramin (desipramine hydrochloride) tablets of 25 mg., in bottles of 50, 500 and 1000.

PRODUCTS FOR PATIENTS YOU SEE EVERY DAY LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

In colicky infants Pediatric Piptal with Phenobarbital slows down spasm, diminishes pain and crying and improves feeding patterns. It permits sleep and rest for patient and family. The less than hypnotic amount of phenobarbital in the recommended dose affords a mild, calming action and enhances the antispasmodic action of Piptal (pipenzolate bromide). The latter drug, as reported in the medical literature, has a favorable ratio of effectiveness to side-effects which is unusual in anticholinergics and thus is particularly appropriate to pediatric use.



PEDIATRIC PIPTAL® WITH PHENOBARBITAL

each cc. contains 6 mg. phenobarbital (warning: may be habit forming); 4 mg. Piptal® (pipenzolate bromide), and 20% alcohol.

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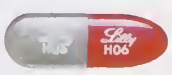
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(see previous page)

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Guest Editorial....

The Physician and the Clergyman

A RECENT SURVEY of people who had experienced a rather wide range of personal trouble revealed that approximately seventy-five percent of them turned first to their minister or their family doctor for help. Whether or not these figures are entirely accurate, they do point again to the fact that the physician and the clergyman continue to represent the whole range of the helping professions in the mind of the general public. This fact alone is sufficient reason for these two professions to work closely together for the welfare of those who look to them in time of distress.

In former days this kind of cooperation seemed easier than it does today. Indeed, there was a time when the priest and the physician were one and the same person prepared to deal with the variety of distresses to which man is heir whether the distress seemed primarily physical or spiritual. There was a kind of "pre-scientific" awareness of man's unity, that he was a whole person, that whatever affected one aspect of his being affected all of him.

Somewhere along the way this notion of man was lost or distorted. Many reasons have been advanced for the change in thinking, and this hardly seems the time or place to rehearse them. In any event, we have inherited a dualistic idea of man which has certainly made close cooperation between the physician and the clergyman more difficult. Inevitably, we tend to think of the physician as having to do with man's physical nature and that alone, while at the same time we tend to think of the minister as being concerned solely with his spiritual nature. Most physicians quite frankly state that they do not see themselves as involved in the spiritual problems of man, just as most clergymen would not think of prescribing for a parishioner's physical ailments. So much so that, when a doctor expresses professional concern for the patient's spiritual

life or the minister speaks of physical healing through prayer, we tend to feel an uneasiness as though this was somehow not right, that these people had stepped outside the bounds of their proper responsibility. Usually without saying so we tend to reason that the doctor had better stick to the practice of medicine and the minister to preaching and not go dabbling into something where they have no business.

Now it goes without saying that a powerful case can be made for professional competence including a realistic knowledge of the limitations of one's own skill and training. We have come a long way from the days when medicine and theology were relatively naive and undefined. No one could responsibly advocate the scrapping of the knowledge that has been hard won by those who devoted their lives to discover more effective procedures for the alleviation of suffering.

Nevertheless, in recent years it has become more apparent that along with the great strides forward there have also been some serious losses. And one of the most serious has been the professional separation between the physician and the clergyman. In many instances the separation has been obscured by the fact that the doctor and the minister were personally quite friendly. They played golf together, went hunting and fishing, belonged to the same clubs, met in church and hospital. Yet in their professional dealing with the person in distress they were quite separate.

This unhappy fact has been pressed home to me in recent months as I have had an opportunity to meet with quite a few groups of ministers and physicians to explore avenues of cooperation. Always at the start of such meetings both groups stoutly protest that in their area the relationship between clergy and physician couldn't be better, that they got along well and really couldn't understand why such cordial association was not true elsewhere. I have heard this in cities and in rural areas, in the mid-west, the south and the east. But as the discussion progressed, it became clear that the relation was personal, not professional. When specific questions were raised such as, "When did you, as a physician, last confer with a minister regarding the treatment of a patient?" or "When did you, as a minister, last consult a physician about a parishioner?" or "When did either of you last refer a patient or a parishioner to the other?" the answers seemed to be somewhat vague. Ministers said they would like to consult physicians, but saw them as being too busy and hesitated to take their time. Physicians said they often thought a patient should see a minister but were reluctant to refer them since the minister would not receive a fee and felt it would be an imposition. Of course there were notable exceptions; but they were, in fact, exceptions. Inevitably, there seemed to be a lack of professional understanding of what

could be expected from the other, a lack of clarity on how far to go in revealing that which had been received in confidential communication, an uncertainty regarding how much freedom each had in approaching the other for professional help with a patient or parishioner.

The hopeful fact, of course, was that the two groups were meeting and in the process were discovering not only the separations but also the strategies for more constructive cooperation. Each group was quite serious in the conviction that the genuine advances of recent years must be maintained. At the same time, they were convinced that the time had come to bridge the gap which had developed without anyone's desiring it.

Such conferences are tangible evidences of a growing movement in both theology and medicine. Most major denominations have set up committees on faith and health to explore the means for a total ministry in time of trouble. The American Medical Association has established a Department of Medicine and Religion which has as its basis the conviction that man is a whole being, and in ill health requires total care and treatment. Of course, the erection of committees and departments will not automatically accomplish these worth-while purposes. Unless physicians and clergymen actually come together to discover the avenues of cooperation, we will be right where we were. But the fact remains that we are now aware of the cleavage and of its detrimental effects on the people for whom we are responsible. Not only so, but we now have the opportunity to join hands in helping those who suffer not just the pains of the body nor yet just the pains of the spirit but as whole persons. And as we join in such an endeavor we make a giant stride forward toward the goal "that they may have life, and have it more abundantly."

William B. Oglesby, Jr., Ph.D.

Union Theological Seminary
Richmond, Virginia

Thyrocardiacs — Problems in Diagnosis

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WILLIAM PARSON, M.D.
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Charlottesville, Virginia

The appearance of the thyrocardiac has changed considerably during the past forty years, due chiefly to the more precise diagnostic methods now available.

THE CARDIOVASCULAR MANIFESTATIONS of thyrotoxicosis have long been recognized. Parry[1] in 1825 noted palpitations, irregular pulses, edema and enlarged hearts in eight patients with exophthalmic goiter. Since then many have studied the relationship of heart disease and thyrotoxicosis. Some claim that thyrotoxicosis alone can cause heart disease[2,3] and others assert that the heart failure and coronary insufficiency seen in the thyrotoxic patients are the results of an underlying primary heart disease,[4,5] the diseased heart being unable to meet the increased circulatory demands imposed by the thyrotoxic state.

It is not the purpose of this paper to pursue this controversy, but rather to review the clinical features which suggest the diagnosis of thyrotoxicosis in patients whose symptoms of heart disease mask or overshadow those of hyperthyroidism. Hamilton[6] and Lahey were among the first to realize that heart failure and other cardiac symptoms might overshadow the symptoms of thyrotoxicosis. In 1924 Hamilton[6] described 50 such patients in a paper "Heart Failure of the Congestive Type Caused by Hyperthyroidism" and listed the clinical characteristics of these patients. It was in discussion of these patients that Lahey first used the term thyrocardiac.

The 60 patients in this study had a variety of studies of thyroid function but the two criteria on which we have selected them for inclusion in this report on thyrocardiacs are: 1. Major presenting symptoms, those of heart failure or angina. 2. Proven thyrotoxicosis on the basis of definite clinical response to treatment of hyperthyroidism with radioactive iodine.

It is informative to list the clinical characteristics set forth for the thyrocardiac by Dr. Hamilton,[6] and to compare these cases with his original observations. Hamilton had as his only laboratory resource a method of measuring B.M.R., while the patients studied here had radioactive iodine uptakes, protein bound iodine, and many other studies of thyroid function.

From his study of 50 cases Hamilton concluded:

1. Nearly all cases are in women over 35 years of age.
2. Goiter or exophthalmos, though valuable if found, are not commonly present in this group of cases.
3. Emaciation or a history of marked weight loss must be present.
4. Pigmentation should be present.
5. Auricular fibrillation, transient or established, must be present.
6. Persistent elevation of heart rate in spite of rest and digitalization is a valuable sign, but a slow heart rate does not exclude hyperthyroidism.
7. Persistent congestive failure in spite of medical treatment directed to the heart is to be expected in these cases.

In Hamilton's series all patients had congestive heart failure associated with thyrotoxicosis, in the present group 51 patients had congestive heart failure and nine had angina. Failure occurred from several hours to six years and angina from three months to 10 years before they were studied.

Since the cardiac symptoms are the most prominent presenting features, it is appropriate to review the cardiac features first. Hamilton was of the opinion that the cardiac difficulty in the thyrocardiac was the result of underlying heart disease and not solely the result of thyrotoxicosis—a view shared by the authors. Thus Hamilton classified the type of heart disease as to etiology as follows:

Type Heart Disease	*Hamilton*	*Present Series*
Rheumatic	15%	16%
Arteriosclerotic	84%	66%
Hypertensive	0.5%	38%
Luetic	0	0.7%

In this classification Hamilton mentioned only one patient with hypertension and the majority, 84%, were lumped into the classification of arteriosclerotic-myocardial disease. In the present series 38% of patients were thought to have essential hypertension and about half of these also had evidence of arteriosclerotic heart disease. Thus the totals for the various types of heart disease are greater than 100% in the present series. It is worthy of comment that the incidence of rheumatic heart disease in thyrocardiacs remains unchanged over 36 years.

Some of the clinical features of the two groups of patients are as follows:

	Hamilton	*Present Series*
Average Age	49.8 yrs.	58 yrs.
Females	88%	89%
Average Weight	109 lbs.	126 lbs.
Number weighing over 130 lbs.	16%	33%
Thyroid		
No goiter	16%	18%
Long standing goiter	8%	34%
Goiter discovered after symptoms manifest	76%	48%
Exophthalmos	10%	18%
Suggestive Eye Signs	35%	23%
No Eye Signs	54%	60%

In the present series the average age of the thyrocardiacs has increased by about eight years while the high incidence in females remains unchanged.

It is encouraging to note that the patients in the present series were not cachectic for the most part. Actually the weights of the patients ranged from 76 to 256 pounds in this group. With few exceptions, the patients in this series gave a history of weight loss if the history was reviewed in terms of several years, but a number of patients had not lost weight in the recent past. In fact, many with heart failure gave a history of recent weight gain. This weight increase was undoubtedly due to edema fluid in most. Evidence for this is found in the fact that many patients lost "weight" as their thyrotoxic state was controlled and later gained weight.

The relatively good nutritional status of the patients in the present series suggests that diagnosis of the thyrotoxic state in the patients with heart disease was made earlier than in Hamilton's time. While a history of weight loss still remains a characteristic of the thyrocardiac, cachexia or recent marked weight loss are not invariable clinical findings as evidenced by our series.

Hamilton recognized that many of his thyrocardiacs did not have goiters and our experience is comparable since 18% of our patients had no detectable thyroid enlargement. There were few very large goiters in either series. The most striking difference between the two groups being the number in the present group who were known to have goiters long before symptoms of thyrotoxicosis or heart disease appeared. Thir-

ty-four percent of this series of patients have histories of long standing goiters. This difference may be more apparent than real since it is probable that this group of patients had had much more medical attention than the group studied over forty years ago.

This series, like Hamilton's, notes the relatively infrequent occurrence of eye signs suggesting hyperthyroidism.

The difference in the incidence of exophthalmos and suggestive eye signs is probably not significant since these signs are subject to considerable personal interpretation. The lack of eye signs in so many patients in both series emphasizes the point that these helpful clues are not present in the majority of thyrocardiacs.

The major mystery in comparing this group of thyrocardiacs with the first large reported series is what happened to the pigmentation which Hamilton noted as such a prominent feature of this syndrome. All of Hamilton's patients, save two, had dark tan, generalized pigmentation of the skin which was sometimes more marked on the upper lids. Jellinek[7] had described similar pigmentation in hyperthyroid patients. None of the patients presented here had any pigmentation reminiscent of that described by these authors. Perhaps this pigmentation was related to the severe emaciation seen in the earlier study although we did not observe it in several emaciated patients.

The cardiac clues to the hyperthyroid state as recognized by Hamilton were auricular fibrillation either transient or established, persistent tachycardia and congestive failure in spite of digitalis and other treatment for heart failure. These observations have become a part of the classical clues to the type of heart failure which should prompt the clinician to consider the possibility that his patient may have hyperthyroidism.

All of Hamilton's patients had heart failure and 96% had auricular fibrillation. In the present series only 60% of patients had auricular fibrillation. Hamilton's patients responded poorly to treatment for heart failure, only 28% of the fibrillators having ventricular rates below 100 after digitilization. In the current series 8% of the thyrocardiacs had pulse rates below 80 before any therapy for heart disease or hyperthyroidism. One of these patients had slow auricular fibrillation and the others sinus rhythms. Fifteen percent of the patients in the present group had pulse rates below 80 after digitalization. A similar number of patients showed considerable improvement as far as heart failure was concerned before therapy for hyperthyroidism. Most of the patients in this group had had recent onset of heart failure.

These latter findings indicate that not all thyrocardiacs show a poor response to treatment for heart failure. This undoubtedly is related to the severity of the hyperthyroidism and the coincident heart disease. Patients with fairly severe heart disease and mild hyperthyroidism may show considerable improvement when treated for failure by the usual measures.

In summary, most of Hamilton's original observations are still valid in the clinical recognition of the thyrocardiac. However, modern techniques of laboratory study of thyroid function had made it possible to recognize thyrotoxicosis in more patients with heart disease. The present day thyrocardiac is older, usually well-nourished in spite of a history of weight loss. Thyroid enlargement is present in only about 80% of patients and in many of these goiter antedates the appearance of cardiac or thyrotoxic symptoms by many years. Many thyrocardiacs do not have auricular fibrillation and a significant number may have auricular fibrillation and/or heart failure which responds adequately to treatment for these conditions. All thyrocardiacs show considerable improvement in their cardiac symptoms when their thyrotoxicosis is adequately controlled.[8]

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Editor's Note: Since submitting this manuscript, Dr. Hollifield has left the University of Virginia, and is now in the Department of Medicine, Chicago Wesley Medical Hospital, 250 East Superior Street, Chicago, Illinois.

Ear-Bone Transplants

It may someday be possible to restore hearing by transplanting tiny ear bones from one person to another. The operation has been successfully performed on cats, and similar research is now underway in human ears.

It's difficult to reconstruct the chain of bones in the "middle ear" of a person with impaired hearing. The task would be easier if a physician could withdraw a bone from a storage bank and implant it in the damaged ear. This sort of operation was performed on 10 cats by three physicians at the Mayo Clinic and Foundation and the University of Minnesota School of Medicine, Rochester. Their report appears in the June Archives of Otolaryngology.

The anvil-shaped bone of the middle ear, the incus, was removed from cats' ears, and then implanted in other animals. In one case, a bone was successfully re-implanted in the same cat.

The transplants were found to be well tolerated when some were examined five to six months later. New bone had started to grow. This new bone was rapidly replacing transplanted bone by a process the authors called "creeping substitution".

Incus autografts—that is, transplants of middle-ear bones from one ear to another in the same person or animal—have been done several times. These new experiments suggest that transplants may be possible from one person to another. It is their impression, the authors said, that the bones not only grow well, but can function as part of the hearing mechanism.

The authors of the report are David F. Wilson, M.D., Jack L. Pulec, M.D., and Peter D. Van Vliet, M.D.

A Five Year Study of Atypical Mycobacteria

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This study shows that "atypical", "unclassified" acid-fast bacilli, or anonymous Mycobacteria, do have clinical importance.

THE GROWING CLINICAL IMPORTANCE of atypical or unclassified Mycobacteria is emphasized by the numerous publications which have appeared in the literature in recent years. Gerszten and associates[1] report that in the United States these organisms are recovered much more commonly in the average sanatorium laboratory than are the bovine strains, which have been emphasized so much in the older literature, and even in recent textbooks. It is the purpose of this communication to summarize the experience with atypical Mycobacteria in a hospital which serves as a regional tuberculosis and chest disease center for the Armed Forces. The present study was divided into two sections, the first to determine the incidence of isolation of unclassified or atypical Mycobacteria, and secondly, when possible, to correlate the significance in the isolation of the organism, with the patient's clinical presentation.

Material and Results

The figures reviewed were obtained from the records of the tuberculosis unit and the tuberculosis laboratory at the U. S. Naval Hospital, St. Albans, New York. The study covers a period of 5½ years, extending from January, 1959, through June, 1964. The group studied consisted of 365 cases, from whom 455 positive atypical Mycobacteria cultures were obtained. During the period under study, 35,040 cultures were processed in the tuberculosis laboratory. The percentage of positive atypical Mycobacteria cultures obtained from the total number of cultures submitted was 0.12%. All specimens were submitted from patients with clinical or roentgenographic findings suspicious for pulmonary disease. The organisms were isolated on Lowenstein-Jensen media. The nomenclature used in classifying the organisms isolated follows the system outlined by Runyon.[2] The pertinent points of his classification are enumerated in figure one. Figure two summarizes the number of cultures processed in the tuberculosis laboratory over the years of the study, with the corresponding number of positive atypical Mycobacteria cultures. Figure three presents the distribution of the positive atypical Mycobacteria cultures as to source and type of atypical Mycobacteria isolated. The most common organisms isolated from gastric fluid and sputum were Group II-Scotochromogens; while the second most common group of organisms isolated were Group 1-Photochromogens. No Group IV-Rapid growers were isolated during the survey period. The thirteen positive Group III-Nonphotochromogens cultured from sputum in 1960 were obtained from one patient. Only three positive bronchial washing cultures were obtained during the period covered in this study, and these were Group II-Scotochromogens. There was only one positive urine culture, and it was a Group II-Scotochromogen. Sixty-three cases in our

The opinions expressed herein are entirely those of the writers and are not necessarily those of the Department of the Navy or the naval service at large.

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study group had more than one positive ayptical Mycobacteria culture, and of these were 15 who also had a positive *M. tuberculosis* culture. (Fig. four).

The age range of our group extended from the late teens to the mid fifties, with the majority of the patients being within the third decade. Over 65% of our patients were male. These findings are consistent with the population serviced by this hospital; that is, young males on active military duty.

FIGURE 1

ATYPICAL MYCOBACTERIA CLASSIFICATION, E. H. Runyon (1959)

	GROUP ONE	GROUP TWO	GROUP THREE	GROUP FOUR
PIGMENTATION	Grown in the dark little or none, grow in the light orange to red.	Grown in dark or light colonies are yellow to red.	Colonies usually have no color.	Colonies have no color.
GROWTH RATE	Colonies appear after 3 to 4 weeks, at 20° to 25° C.	Growth occurs at 20° to 25° C. Usually fail to grow at 45° C.	Same as for group I and II	Growth within 24 hours at 20° to 25° C.
COLONIES	Smooth, occasional strain is rough.	Smooth, rarely rough.	Smooth	Rough
APPEARANCE OF BACILLI	Long, banded, beaded and strongly acid fast.	Variable in size.	Highly pleomorphic, usually contain single hyperchromatic granule.	
CORD FORMATION	Tendency to cord formation parallels colony roughness	Rare	Usually lacking.	Present
CATALASE ACTIVITY	Positive	Positive	Positive	

FIGURE 2

Year	Number of Cultures	Number of Atypical Mycobacteria Cultures
1959	5143	34
1960	4269	92
1961	5680	100
1962	5374	65
1963	6062	91
1964†	8106	72

† first six months

Discussion

A number of studies have reported on the incidence and significance in the isolation of atypical Mycobacteria. Our review revealed that Group II-Scotochromogens were the most commonly isolated organisms from gastric fluid and sputum. Similar findings have been previously reported.[1] In the series reported by Prather, et al,[3] the most commonly isolated atypical Mycobacteria were Group III-Nonphotochromogens. They accounted for approximately 75% of their cases, while the Group II-Scotochromogens only accounted for 12.6% of their cases. Of the urine specimens submitted to our laboratory for culture for acid fast organisms, there was only one positive atypical Mycobacteria culture, and this was a Group II-Scotochromogen. In the survey by Pellman and Runyon,[4] Group II organisms were the most common of the atypical Mycobacteria isolated from urine.

A report by Atwell and Pratt[5] presented a comparison culture study of gastric washings from asymptomatic employees at a tuberculosis sanatorium, and from a group of its patients. They obtained positive atypical Mycobacteria cultures from 18.8% of those in the employee's series, and 9.2% from those in the patient's series. By a simple modification in the method of preparing the

equipment used in the collection of the gastric fluid, the percentage of positive cultures in the first group decreased to 2.3% and in the second group to 2.7%. It was their conclusion that their data suggested "A sporadic and inconstant source of unclassified Mycobacteria unrelated to tuberculosis or chemotherapy. . . ." Bell and Riemensnider[6] have reported on 1,474 gastric and sputum cultures from individuals with definite or suspicious pulmonary lesions noted on chest x-ray. From the material cultured, they obtained 141 positive cultures for *M. tuberculosis* and 33 positive atypical Mycobacteria cultures. The 33 positive atypical Mycobacteria cultures had the following breakdown: eight were of Group I, two of Group II, and 13 of Group III. Atypical Mycobacteria have been isolated from the sputum of approximately 2% of admissions to tuberculosis hospitals in Florida and Georgia.[7] Other epidemiological studies have reported finding each atypical Mycobacteria group, including Group III organisms, in the sputum or nasopharyngeal washings of healthy individuals with normal roentgenograms.[8]

As has been reported by Lewis and associates,[9] infection from atypical Mycobacteria is distributed widely throughout the world. They also comment upon the fact that most of the cases of Nonphotochromogenic disease has been reported from the southeastern part of the United States. Keller and Runyon[10] in their consideration of the epidemiology of Mycobacterial diseases, write that the "distinctiveness of nontuberculous Mycobacterial disease is shown in three aspects of epidemiology: contagion, distribution and social susceptibility." It is the opinion of these authors that evidence of transfer of these organisms from man to man is almost entirely lacking, and that their geographic distribution is very poorly known. Chapman, in reference to social susceptibility, reports that Negroes and Latin Americans have less of the other Mycobacterial disease than would be expected from their tuberculosis rates.[11]

In an attempt to further clarify the question of the clinical significance of the isolation on atypical Mycobacteria, our surgical pathology files were reviewed for cases from which an atypical Mycobacteria

FIGURE 3

DISTRIBUTION OF POSITIVE CULTURES AS TO SITE OF ORIGIN AND TYPE OF ATYPICAL MYCOBACTERIA CULTURED

YEAR	Total Number of Cases	GASTRIC I	GASTRIC II	GASTRIC III	GASTRIC IV	SPUTUM I	SPUTUM II	SPUTUM III	SPUTUM IV	BRONCHIAL WASHINGS I	BRONCHIAL WASHINGS II	BRONCHIAL WASHINGS III	BRONCHIAL WASHINGS IV	URINE I	URINE II	URINE III	URINE IV
1959	32	—	27	—	—	—	7	—	—	—	—	—	—	—	—	—	—
1960	69	—	45	—	—	1	33	13	—	—	—	—	—	—	—	—	—
1961	80	—	70	—	—	1	29	—	—	—	—	—	—	—	—	—	—
1962	54	3	42	—	—	10	9	—	—	—	1	—	—	—	—	—	—
1963	78	4	71	—	—	3	10	1	—	—	1	—	—	—	1	—	—
1964	52	1	54	—	—	—	16	—	—	—	1	—	—	—	—	—	—

FIGURE 4

YEAR	NUMBER OF CASES WITH MORE THAN ONE POSITIVE ATYPICAL MYCOBACTERIA CULTURE	NUMBER OF CASES WITH POSITIVE M. TUBERCULOSIS CULTURE
1959	2	0
1960	10	1
1961	15	3
1962	8	3
1963	13	2
1964*	15	6

*First six months of the year.

was cultured. The review revealed that there were two lung specimens and one cervical lymph node from which an atypical Mycobacteria was obtained. From the cervical lymph node a Group II-Scotochromogen was cultured, and from the lung specimens a Group III-Nonphotochromogen and a Group I-Photochromogen. No record of sputum cultures were available on the cervical lymph node case. Sputum cultures in the second group were positive for the same organism isolated from their respective lung specimen. The histological appearance of these latter two cases was consistent with the findings usually associated with *M. tuberculosis*. This has also been the finding reported by several other authors.[12, 13]

It has been shown in these studies that the isolation of the various groups of atypical Mycobacteria is not rare, but is a rather common occurrence in an active tuberculosis laboratory. Establishing clinical significance in the isolation of these organisms, in some instances, still poses a problem. Cases in this study from whom Groups I and III organisms were isolated all have definite evidence of pulmonary disease, and it was felt that these organisms were the responsible agents. The view expressed by some investigators,[14] who believe that organisms are human pathogens when two or more isolations of the same organism are obtained from a single patient, is not completely substantiated by this study when the Group II-Scotochromogens are considered. The actual role played by Group II-Scotochromogens in the production of human disease is still open to question. The enigma of their isolation is emphasized by 12 cases from which Group II-Scotochromogens were the sole organisms obtained from both gastric and sputum samples. The problem is currently being investigated.

Comments and Summary

Nontuberculous Mycobacteria for several years have been designated as being "atypical" or "unclassified" acid-fast bacilli. These designations have been appended to them largely due to the fact that some of their morphological, growth, and biochemical characteristics were at variance with those of *M. tuberculosis*. The atypical Mycobacteria also have decreased or no pathogenic activity for guinea pigs, and are INH resistant. Runyon, as well as other authors, are of the opinion that a better designator for these organisms is anonymous Mycobacteria. A strong point as to what a proper designation for these groups of organisms should be, will not be made by the authors. The challenge in the field of atypical Mycobacteria rests in the current work[16,17] being done in detecting adequate and easily performed biochemical tests to properly classify them. The results of the latter two authors are merely examples of many in the current literature.

This paper is a report of a five and a half year study of atypical or unclassified Mycobacteria isolated from patients at a U. S. Naval Hospital. Our study revealed that the most common atypical Mycobacteria isolated from gastric washings and sputa were Group II-Scotochromogens.

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How to Go to Sleep

Let us all remember that we must not prescribe just the dosage that is given in a book; we must give enough to produce the effect we desire. Also we must not rigidly prescribe a dose every four hours; it is better to tell the nurse to give enough of the medicine to relieve pain, and when the pain returns to give another dose. I learned much pharmacology years ago when I watched a man quickly drink four martinis. He explained that he did not feel anything until he had four. And then I thought of the many times I had wondered why a man like that had to take three or four capsules of a barbiturate before he felt sleepy.—Walter C. Alvarez, M.D., in *Modern Medicine* (34:106), March 14, 1966.

Hyperparathyroidism

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Two cases of hyperparathyroidism are presented. The early diagnosis may be difficult but the results of treatment early in the course of the disease are rewarding.

THE recognition in 1934 by Albright and co-workers of the necessity for studies of the calcium and the phosphorous metabolism in all cases of renal calculi must be accepted as a milestone in the diagnosis and treatment of parathyroid disease.[1] Even though much has been written about early diagnosis, the insidious and obscure onset and the varied and misleading progress of parathyroid disease makes the diagnosis often difficult. The early signs and symptoms mimic, quite often, the early features of many unrelated diseases; hence, they may mislead the physician away from early diagnosis before irreversible complications develop.

Castleman and Mallory contributed greatly to our understanding of the pathology in parathyroid disease in presenting evidence of two groups of cases.[2] The least common group is characterized by diffuse uniform hyperplasia of all the parathyroid tissue and a second larger group shows neoplasia (adenomata). Carcinoma of the parathyroid glands associated with primary hyperplasia has been reported but it is rare.[3]

The classification on purely morphological grounds of similarity of cell-type and structure has little or no clinical significance in the diagnosis and treatment of the diseases of the parathyroid glands.

In a review of the literature, Castleman and Mallory[2] found the incidence of parathyroid disease to be highest in patients between 40 and 60 years of age. The predominance of females over males with hyperparathyroidism was noted in a ratio of approximately two and one half to one in their study. Of 185 available cases, a single gland was involved in slightly over three fourths of the patients and multiple enlargements in the remainder. The right and left sides were involved almost equally. Of surgical significance, however, was the incidence of the adenomata in the lower gland in a five to one ratio.

Tumors of aberrant parathyroid glands are not infrequent. Intra-thyroid, intrathymus and retrosternal tumors have been found.[4] Preservation of the vascular pedicle connecting the tumor by its blood supply to the original thyroid artery has been pointed out by Walton to be of great assistance to the surgeon in locating the displaced tumor.[5]

Renal calculi and skeletal involvement are well known in hyperparathyroidism. Cope found 55 percent of 78 cases with renal calculi and without skeletal pathology.[6] Castleman and Mallory reported 44 percent with renal stones alone.[2] It is their belief that stone formation comes first and bone lesions follow only after a period of years. Uncomplicated hyperparathyroidism exhibits hypercalcemia, hypophosphatemia, hypercalcinuria and hyperphosphaturia.

With few exceptions the diagnosis may be made in the laboratory. The early cases and the cases with less differentiating classical findings often present themselves as perplexing problems to the physician.

Hypercalcemia is present in multiple myeloma, sarcoidosis, osteolytic carcinomatosis, some breast and lung carcinomas and intoxication with Vitamin A.[7] The ratio of cerebral spinal fluid calcium levels to blood calcium levels may be of help in the differ-

ential diagnosis of a typical hyperparathyroidism as shown by Howard.[8] Paper electrophoresis studies of the plasma are useful in excluding sarcoidosis and multiple myeloma. The pattern in sarcoidosis is usually a "step-type" pattern and the pattern in multiple myeloma is typically a peak in the alpha globulin phase of the curve.

Hyperparathyroid crisis is a serious complication of parathyroid disease; however, it occurs infrequently. Hanes reported the first case of hyperparathyroid crisis in 1939.[9] Most of the cases that have been presented in the English literature since that date have been fatal cases. The main features of hyperparathyroid crisis are: rapid onset of vomiting, constipation, pain in the extremities, back or abdomen, fever, polyuria, polydipsia, coma, collapse, and death. It must be stressed that unless surgical intervention is instituted without delay, hyperparathyroid crisis will result in the death of the patient.[10]

Having accepted the existence of the parathyroid adenoma or primary hyperplasia, the surgeon is primarily concerned with the finding and removal of the parathyroid tumor or tumors and/or the recognition and subtotal resection of hyperplastic tissue in cases of primary hyperplasia. As he approaches the operating table, the surgeon is confident of one predetermined fact; that his initial approach will be through a low collar incision.

Case Reports

No. 1. G. G., a 27-year old white male was admitted to the Alexandria Hospital for surgical removal of bilateral renal calculi.

The first symptons of genito-urinary disturbance were noted three years before admission to the hospital. Hematuria occurred several times within 12 months. Two years before admission to the hospital left flank pain occurred with subsequent passage of a small calculus through the urethra. X-rays were taken elsewhere at that time and a cluster of calculi was discovered in the pel-

TABLE I

Preoperative Laboratory Studies

	Serum Calcium mg/100 ml	Serum Phosphorus mg/100 ml	Serum Alk. Phosphatase Bodansky Units	Total 24 Hr. Urine Excretion of Ca.
Case #1 W – M	14.2 mg	1.8 mg	3.7	442 mg
Case #2 C – F	18 mg	1.8 mg	25.3	317.4 mg

TABLE II

Preoperative Laboratory Studies

	Serum Calcium mg/100 ml	Serum Phosphorus mg/100 ml	Serum Alk. Phosphatase Bodansky Units	Total 24 Hr. Urine Excretion of Ca.
Case #1 W – M	10 mg	3.0 mg	3.4	71 mg
Case #2 C – F	10.4 mg	2.7 mg	3.2	14.8 mg

Note: Post-operative serum magnesium determinations were within normal limits.

vis of the left kidney. The patient was advised to increase his oral intake of fluids. During the eight month period prior to admission to the Alexandria Hospital intermittent attacks of right and left flank pain with hematuria had occurred with recovery of five small calculi from the urine. History revealed loss of appetite, loss of weight, lassitude and evidence of indifference at work.

Examination revealed a well-developed and moderately well-nourished white male in no acute distress. The blood pressure was 140 millimeters of mercury systolic and 80 millimeters of mercury diastolic. The pulse was 68 per minute and the respirations 16 per minute. The oral cavity revealed no abnormalities. The lungs were clear to auscultation and the heart rhythm was regular. Abdominal examination was noncontributory and there was no costovertebral angle tenderness. The hemoglobin was 12 grams and the volume of packed red cells was 35 percent. The urinalysis revealed a specific gravity of 1.006, the presence of albumin and many erythrocytes. The VDRL screening test for syphillis was negative. Chemical analysis of a stone that the patient presented on admission was reported to contain calcium oxalate dihydrate 88 percent and hydroxyl-apatite 12 percent.

Radiographic studies revealed the function and drainage in both kidneys to be decreased. A 1.5 cm calculus was located in the right renal pelvis and multiple calculi measuring 1.0 cm and less were located in the lower calyces of the left kidney. Radiographic examination of the hands, feet, chest and mandible revealed no abnormal skeletal findings.

Additional specific laboratory studies are presented in the accompanying tables.

The patient underwent surgery to remove the renal calculi secondary to the parathyroid malfunction. The first operation was performed under epidural anesthesia. A right lumbar oblique incision was made and a pylolithotomy performed. The wound was closed with drainage. The second operation was performed five days later under epidural anesthesia. A left lumbar oblique muscle splitting incision was made and the left kidney exposed. The small pelvis of the kidney was incised and digital palpation revealed calculi fixed in a central lower calyx. The wound was closed with drainage.

The patient had an uneventful recovery from the renal surgery.

Twelve days following the second renal operation, exploration of the neck was undertaken in search of the parathyroid pathology.

With the patient under endotracheal general anesthesia a low collar incision was made. The ribbon muscles were separated in the midline and transected near their insertions. Dissection was begun on the right side with elevation of the lateral margin of the thyroid gland and rotation of the gland anteriorly and medially. A normal parathyroid gland was found behind the upper pole of the right lobe. Dissection beneath the lower pole of the right lobe of the thyroid gland revealed an oval, uncapsulated, rubbery, yellowish-tan colored nodule measuring 1.0 x 0.5 x 0.5 cm. The quick frozen section diagnosis was parathyroid adenoma. Further dissection in the retrothyroid space on the right side revealed no other abnormalities. The left retrothyroid space was then entered with rotation of the left lobe anterior and medially. Examination revealed a normal appearing parathyroid body behind the upper pole of the gland. Dissection beneath the lower pole of the left lobe of the thyroid revealed the presence of an oval, encapsulated nodule measuring 2.5 x 1.4 x 1.0 cm. On cut surface the tissue was uniform in texture and yellowish-tan. The quick frozen section diagnosis was parathyroid adenoma. The patient's postoperative course was uneventful with no evidence of tetany. He was discharged from the hospital on the fifth postoperative day.

No. 2. L. R. A 43-year old colored female was admitted to the Alexandria Hospital with the complaint of persistent pain in the right hip and the right leg. The patient's symptoms began two months prior

to admission when, while working as a waitress, she attempted to lift a tray of dishes. A sudden onset of excruciating pain in the right hip caused her to fall to the floor. Prior to this incident there had been no episodes of discomfort and no instances of trauma to her body.

The patient stated that during the past eighteen months she had experienced a 20 pound weight loss with some loss of appetite. The patient had appeared to be depressed and less communicative with her family and friends, but she had remained actively employed.

Examination revealed an adult colored female, well developed and moderately well nourished. The patient's height was five feet one inch. The weight was 115 pounds. Blood pressure was 115 mm of mercury systolic and 70 mm of mercury dystolic. The pulse was 80 per minute and the respirations 20 per minute. The temperature was 99 degrees fahrenheit. Examination of the oral cavity revealed the lower teeth to be absent and dentures were in place. Examination of the neck revealed a questionable enlargement in the left lobe of the thyroid gland. The lungs were clear to ascultation. The heart rhythm was regular. The abdomen was soft and no masses were palpable. The lower extremities were equal in circumference and in length. There was one plus pedal edema. Normal range of motion was present in the lower extremities.

Laboratory studies revealed a hemoglobin of 5.7 grams with a volume of packed red cells of 22 percent. The platelets were adequate. Red cell morphology revealed marked hypochromia, anisocytosis and poikilocytosis. A few target cells were present. The total leucocyte count was 9,000. The urinalysis revealed a specific gravity of 1.011, the presence of albumin and leucocytes. The VDRL screening test for syphilis was negative.

The admission working diagnoses were (1) nutritional anemia (2) GI malignancy with secondary anemia and bone metastases.

Further laboratory examinations were made. The Bence-Jones protein determination of the urine was negative. The prothrombin activity was 87 percent. The papanicolaou examination of the cervical smear was negative. The bone marrow study revealed a normoblastic hyperplasia of the bone marrow.

Radiographic examination of the lumbosacral spine showed no evidence of fracture or dislocation. The bodies and intervertebral spaces were normal. There were areas of destruction in the peripheral portion of both ilea, the superior rami of the right pubis and ischium and inferior ramus of the right pubis extending into the body of the right pubis. There was a small area of destruction in the neck of the right femur. Healing fractures of the rami of the right pubis were noted. These changes were thought to represent: (1) osteolytic metastases (2) multiple myeloma (3) hyperparathyroidism. Other radiographic examinations revealed multiple small lytic lesions in the skull. The lung fields were clear but multiple destructive rib lesions were noted bilaterally. The dorsal spine showed demineralization. The left pedicles of D4 and D5 were indistinct suggesting a destructive process. The gallbladder, esophagus, stomach and small intestine were normal. Radiographic examination revealed cystic changes at the lateral end of the right clavicle and erosion at the left acromioclavicular articulation. Both hands showed minute bilateral subcortical erosion and the teeth showed the presence of lamina dura. An intravenous pyelogram demonstrated slight delay in the excretion of contrast material. The calcific densities noted in other x-rays were located in the papillary structures of the kidneys.

A paper electrophoresis study of the plasma protein was not remarkable. The preoperative and post-operative blood chemistry determinations are presented in the accompanying tables.

Exploration of the neck was undertaken in search of parathyroid pathology. With the patient under endotracheal general anesthesia, a low collar incision was made. The

ribbon muscles were separated in the midline. The left thyroid lobe was elevated and the lateral border reflected anteriorly and medially. A tumor was found in the left lower retrothyroid space which measured 3.5 x 2.5 x 2.2 cm. The tumor was oval, smooth, and yellowish-tan in color, and weighed 9.0 grams. The quick frozen section diagnosis was parathyroid adenoma. A normal parathyroid gland was found behind the upper pole of the left lobe of the thyroid. Exploration of the retrothyroid space on the right side revealed the presence of normal parathyroid glands.

The patient's postoperative course was uneventful without signs of tetany. She was discharged from the hospital on the eighth postoperative day.

Summary

A brief review of the history and the usual findings in hyperparathyroidism are presented. The difficult and frustrating perplexities in the diagnosis of hyperparathyroidism are stressed throughout the related medical literature with emphasis on the variations presented by individual cases.

Two cases of hyperparathyroidism are presented: a patient with a solitary adenoma and a patient with multiple adenomata. One patient presented upper urinary tract disease with renal calculi as the major symptom. The other patient presented vague generalized symptoms due to altered metabolic processes, anemia and extensive osseous changes with pathological fractures. The dissimilar symptoms presented by patients with this disease have been demonstrated in the two cases herein discussed. The low urinary excretion of calcium that occurred in the second case in the postoperative period was thought to reflect the demand for calcium replacement in the skeleton.

Follow-up studies one year after surgery revealed the patients to be asymptomatic with serum calcium and serum phosphorous levels within the normal limits.

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Coronary Embolism Associated with a Prosthetic Mitral Valve

A Disease of Medical Progress

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New methods of treatment are usually accompanied by new and undesirable complications. These, of course, reduce the value of the new procedure.

THE STARR-EDWARDS prosthetic mitral valve was introduced in 1960.[1] Stasis of blood in the left atrium induced by persistence of diastolic gradients after valve implantation and the thrombogenic potential of the commonly used valve prostheses encourage thrombus formation.[2] Recognition of the possibility of systemic thrombo-embolic disease from this source may explain an otherwise dismaying clinical picture. Such was the problem in the case to be discussed, that of a twenty-six year old white female who presented with an acute diaphragmatic myocardial infarction. Coronary embolism associated with a prosthetic mitral valve is thus another disease of medical progress. This case report is written to call attention to this new disease entity, and to suggest cautious deliberation before insertion of such a prosthesis.

Case Report

H.B., a twenty-six year old white female, was admitted to the Norfolk General Hospital on November 6, 1965, because of severe substernal pain accompanied by diaphoresis and lightheadedness. She had boarded a bus at 9:00 A.M. to go to work when she developed substernal pain, a choking sensation, diaphoresis, apprehension and lightheadedness. When examined on admission, pulse was 88/minute, blood pressure was 104/60. She was apprehensive and appeared acutely ill. Examination of the heart revealed no enlargement, a sinus rhythm, and in all valve areas the metallic prosthetic first sound preceded by a metallic prosthetic opening snap and a normal cardiac second sound. There were no signs of cardiac decompensation. An electrocardiogram disclosed S-T depressions in V_2, V_3, V_4 and T-wave inversions in VF, V1-V4. (Fig. 1)

Her past medical history disclosed that at the age of eight she had arthralgias and chorea. Two gestations in 1953 and 1954 were uncomplicated. In 1962, she insidiously developed easy fatigability and asthenia. Pedal edema appeared in June, 1962. In October, 1962, she developed a bronchial infection accompanied by hemoptysis and an increase in her pedal edema. On physical examination in November, 1962, she exhibited bilateral pedal edema, hepatomegaly with hepatojugular reflux, signs of airway obstruction. Cardiac examination disclosed a substernal heave with a regular sinus rhythm, a mid and late diastolic rumbling murmur, accentuated apical first sound, an opening snap, and accentuated pulmonic closure. Chest x-ray suggested a mitralized cardiac configuration and vascular prominence with bibasilar Kerley's lines. Her electrocardiogram showed P-

mitrale, a mean frontal plane QRS axis of plus 80 degrees, a tiny RSR prime pattern with T inversion in V1-V3 and rather low voltage R waves over the left lateral chest leads. On February 25, 1963, at the Uni-

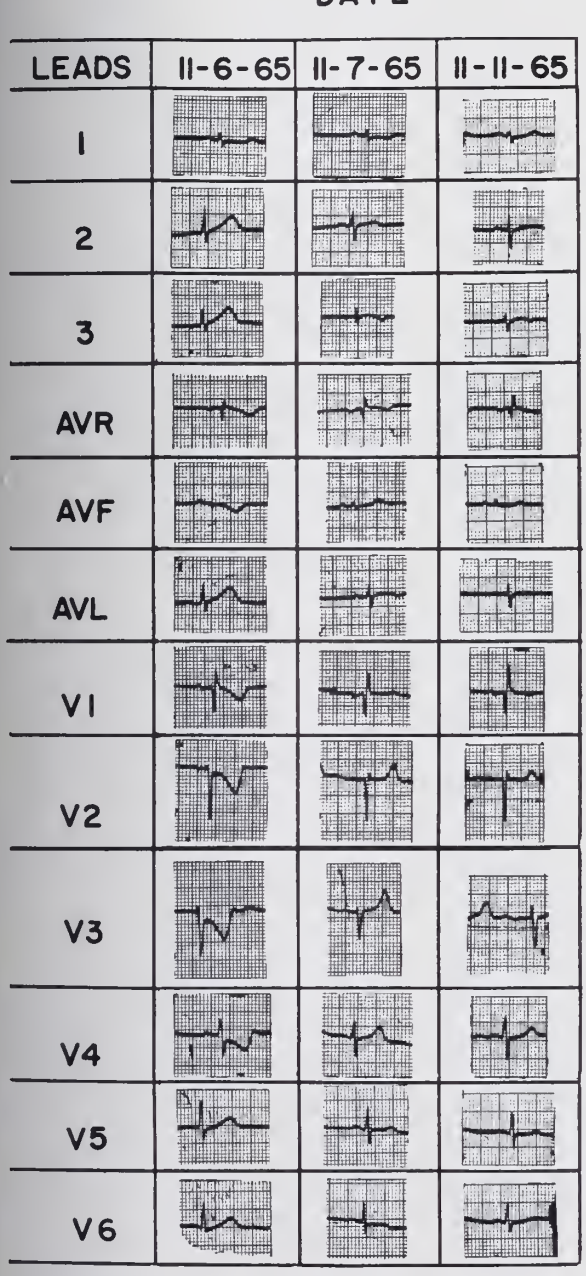


Fig. 1

versity of Virginia Hospital, a closed mitral commissurotory was carried out. The operative notes stated that after opening the posterior commissure it was evident that there was a jet indicating some mitral insufficiency. The anterior commissure was therefore only slightly opened. The posterior commissure was opened to the annulus. She did well postoperatively and, indeed, without medications or salt restriction remained well until December, 1964. Hemoptysis appeared briefly in December, 1964, and without specific therapy remitted. The hemoptysis then recurred on February 20, 1964. Her chest x-ray at this time revealed significant left atrial and right ventricular enlargement with associated pulmonary vascular congestion and prominent Kerley lines. She was readmitted to the University of Virginia Hospital on February 25, 1965. On March 2, 1965, right and left cardiac catheterization with cineangiography was performed. These studies demonstrated significant mitral stenosis with a gradient of 14mm of mercury across the valve. Although the right ventricular end diastolic pressure was normal at rest and after exercise, the pulmonary artery pressure rose above 100mm with exercise. On March 4, 1965, under general endotracheal anesthesia utilizing extracorporeal circulation with the pump oxygenator she underwent total replacement of her mitral valve with a Starr-Edwards ball valve prosthesis. She tolerated her surgery well. Two weeks postoperatively she was placed on oral anticoagulant therapy with Coumadin®. By June, 1965, she was asymptomatic on no cardiac drugs. Cardiac silhouette appeared normal on chest x-ray. On July 6, 1965, and August 10, 1965, she developed substernal pain suggestive of angina. Electrocardiograms were normal on each occasion. Prothrombin time on July 6, 1960, was 17/12. Coumadin dosage was increased, but the patient voluntarily decreased her dosage "because it was easier to remember to take one pill a day." When hospitalized on November 6, 1965, her prothrombin time was 16/12.

Her hospital course following her acute myocardial infarction was uncomplicated. Her electrocardiogram by November 11, 1965, had largely reverted to normal. See

Figure 1 which documents her rapid electrocardiographic evolution. Serial SGOT and LDH determinations on November 6, 7, 8, 1965, were 42-620, 68-790, 44-790 units, respectively. Normal SGOT valves in our laboratory are below 40 units and normal LDH is below 500 units. Coumadin was continued in dosage to keep the prothrombin time in seconds twice the control value. A six weeks rest regimen was imposed. At the end of this period she was asymptomatic. During her convalescence she reported that two days prior to admission she had experienced an episode of left dysesthesia and aphasia suggestive of cerebral microembolism.

Discussion

The first eight patients had replacement of their mitral values by the shielded ball valve prosthesis developed by Starr and Edwards during the eight months between August, 1960, and March, 1961.[1] The Starr group in 1965 reported a 43% incidence of systemic arterial embolism in 56 patients followed for at least three months after insertion of a Starr-Edwards mitral valve prosthesis. This was markedly higher than the 12% seen in patients with aortic valve prostheses. When the valve was examined subsequently, thrombus formation had appeared to start on and remain limited to exposed metal parts.[3] DeBakey's group reported late thromboembolic deaths in six of 242 patients with mitral and aortic prostheses. Deaths were due to secondary involvement of the coronary, cerebral, or mesenteric vessels from thrombus formations at the prosthetic site. Four of the six had mitral prostheses; one had a combined mitral and aortic prosthesis, and one had only an aortic prostheses. The feeling of the DeBakey group was that thromboembolic accidents occurring after surgery may ultimately be the major disadvantage of valve replacement with prostheses containing synthetic cloth materials.[4] Controversy exists as to the efficacy of anticoagulation in preventing such prosthetic thromboses.[5,6]

The patient described in this paper had a regular sinus rhythm and a normal sized left atrium by chest x-ray at the time of her embolic episode. Her level of anticoagulation was inadequate. How important this factor was awaits future careful studies. The rapid evolution of her electrocardiagraphic picture is noteworthy. She has probably experienced at least four embolic episodes, three coronary and one cerebral. The episode which induced her diaphragmatic infarction was only the most dramatic one. It is ironic that her life should be threatened by an inherent complication of a prosthetic valve which had functioned so efficiently in restoring her mitral valve hemodynamics to a normal physiological state. This complication gives one pause in considering a patient for prosthetic valve replacement.

Summary

A twenty-six year old white female presented with an acute diaphragmatic myocardial infarction nine months after insertion of a Starr-Edwards prosthetic mitral valve. She recovered uneventfully. This is a disease of medical progress in that this prosthesis was developed in 1960. The Starr-Edwards prosthesis has a high inherent potential for thrombus formation on its structures. Recognition of this potentiality for systemic thromboembolism in such a patient may explain an otherwise puzzling clinical picture. This complication of the ball valve mitral valve makes careful deliberation essential before committing a patient to its insertion.

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Leukemia and Lymphoma

A group of Nebraska families has been identified in which the malignant diseases leukemia and lymphoma occur two and a half times as frequently as in a control group from the same area. This suggests that susceptibility to these somewhat similar diseases may be inherited, says an article in the July 4th Journal of the American Medical Association.

The four physician-investigators from the University of Nebraska College of Medicine and the Eppley Institute for Cancer Research, Omaha, interviewed 92 families (with 1,532 members) in which at least one person had leukemia or lymphoma. They also interviewed 69 randomly selected families with 1,294 members; some of these contained leukemia-lymphoma victims, others did not.

All of the families were from rural, eastern Nebraska, and all shared a common characteristic: considerable association with farm animals. The investigators reasoned that if animal-carried agents are involved in leukemia and lymphoma, both study groups would have similar exposure. It was relatively easy to trace family histories for several generations in the stable, close-knit farm communities. They found evidence of malignancies in most of the families, but leukemia and lymphoma appeared two and a half times as often in families in which at least one other member was known to have had the disease. Twenty-one families were found with "multiple involvement", meaning two or more cases of leukemia or lymphoma. Forty-nine persons in these families had one or the other of the disease, and 76 additional relatives had other malignant diseases.

Thus, in the "high risk" families, 125 out of 544 members (23 per cent) were found to have suffered some kind of malignant disease. Among 71 persons whose families contained only one known case of lymphoma or leukemia, 41 had at least one blood relative with a diagnosis of other malignancy (148 or 988 family members, or 15 per cent). Forty-nine of the 69 control families had at least one member with a diagnosis of malignancy (132 of 1,294 family members, or 12 per cent).

The physicians said their data best fit the hypothesis that some persons may acquire leukemia or lymphoma if (1) they have a certain kind of genetic constitution, and (2) the disease-causing agent is encountered at the proper time and place. If viruses really are the causative agent, a person's genetic makeup "may have a great deal to do eventually with what happens" when the virus enters his environment. They are Perry G. Rigley, M.D., Robert C. Rosenlof, M.D., Peyton T. Pratt, M.D., and Henry M. Lemon, M.D.

Bilateral Posterior Shoulder Dislocation

An Orthopedic Case Report

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This unusual dislocation was diagnosed promptly and treated by closed reduction. Bilateral stable shoulders resulted.

ALTHOUGH ANTERIOR DISLOCATION of the shoulder has been known and well described since the writings of Hippocrates,[1] it has been only slightly more than one hundred years since Sir Astley Cooper first described posterior dislocation of the same joint.[2] Since the first description, the danger of overlooking this diagnosis has been pointed out many times. Rarely, posterior dislocation of the shoulder has been unrecognized for as long as thirty-five years.[3]

Relatively few cases of posterior shoulder dislocation have been described; these comprise approximately 2 to 3.8 per cent of all shoulder dislocations.[3,4] The occurrence of bilateral, acute, posterior shoulder dislocations in a previously healthy adult represents an occurrence of extreme rarity. The present case is reported because of its rarity, immediate diagnosis, and simplicity of treatment. At least three earlier cases have been reported in whom immediate diagnosis was not made and closed reductions were not feasible. Wilson reported a sixty-six year old male in whom bilateral dislocations occurred during an epileptic seizure.[5] Diagnosis was delayed for four days and bilateral open reductions with transacromial wire fixation was required to obtain stable reduction. O'Connor described a sixty-one year old male who also suffered dislocations in the course of a grand mal seizure.[6] In this patient, there was actually a severe fracture dislocation with posterior dislocations of the head fragment. One additional patient was described by McLaughlin.[3] This patient had bilateral posterior dislocations which had been unrecognized for thirty-five years. Dorgan, in reporting 162 dislocations of the shoulder in which seven were posterior, describes two cases of bilateral dislocation. One of these was similar to that of O'Connor in that there was severe fracture with dislocation of the head fragment. The second patient was similar to the one presented here. This was a young woman who was thrown violently forward in an automobile accident. In an effort to protect herself, she placed her hands in front of her with the shoulders in flexion, adduction and internal rotation. Bilateral subspinous dislocations were easily reduced.

Case Report

A thirty-eight year old stevedore was admitted shortly following a fall on his outstretched hands. Immediately following the fall, he complained of severe pain in both shoulders and was unable to move his arms.

Examination, at the time of admission, revealed an absence of the normal shoulder contour bilaterally, exquisite point tenderness over both shoulders, and a sensation of "emptiness" on palpating both glenoid fossae. The shoulders were adducted, the forearms held folded across the chest. The pa-

tient was able to move his elbows, hands and wrist voluntarily without pain; however, any attempted shoulder motion was resisted and painful. Initial roentgenographic examination including routine anteroposterior and axillary views of both shoulders revealed bilateral subspinous posterior dislocations with bilateral fractures of the lesser tuberosity. (Fig. 1)



Fig. 1

After the patient had been given 100 milligrams of meperidine intravenously, the



Fig. 2

right shoulder was reduced easily by direct traction in the long axis of the humerus, and direct pressure on the proximal portion of the humerus. On the left, however, attempted reduction by a similar method was unsuccessful. Traction was then exerted with the arm in 90 degrees of forward flexion, and then adduction and gentle rocking produced a similar successful reduction on the left. Both shoulders were stable following reduction. Post reduction x-rays revealed satisfactory position bilaterally.



Fig. 3



Fig. 4

(Fig. 3) Following reduction, both shoulders were maintained in adduction and internal rotation for three weeks; the right

with a Velpeau dressing, and the left with a sling and body swathe.

Discussion

This patient presented the classical findings of posterior dislocation of the shoulders. The diagnosis was made rapidly following admission because of the typical clinical picture which he presented. There was marked flattening of the shoulder curve bilaterally. With the humerus abducted, its longitudinal axis was markedly posteriorly directed, giving another clue to the diagnosis. The use of axillary shoulder views produced early confirmation of the diagnosis. Occasionally, axillary views cannot be obtained because of pain which limits abduction.

Although the patient lost consciousness at the time of the fall, the mechanism of injury can be gathered from descriptions by observers. As the patient began to fall, the arms were out-stretched in the protective manner, resulting in forcible adduction and internal rotation of both shoulders.

Although recurrent bilateral posterior dislocation has been previously described, in general, the patients present some constitutional deformity such as increased joint capsule laxity, as seen in Ehlers-Danlos Syndrome.[8]

The type of treatment for posterior shoulder dislocation remains unsettled.[4] The danger of early redisplacement has been pointed out and internal fixation with transacromial wires suggested to prevent this.[5] Delay in recognition of this injury is frequent, leading to prolonged stretching of joint capsule and periarticular structures. Perhaps this delay leads to decreased stability, and prompt recognition and replacement will produce less tendency to redisplacement.[3]

The shoulders of the present patient were stable following reduction and remained so during the three weeks of immobilization. When seen one year later, he had had no recurrences and continued working as a stevedore. There was, however, limitation of abduction and external rotation.

Summary

A thirty-eight year old white male was seen with acute, traumatic, posterior dislocation of both shoulders. Satisfactory closed reduction was carried out without difficulty, and bilateral stable shoulders resulted.

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Visceral Leishmaniasis (Kala-Azar), Sudanese Type

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The rarity of this exotic disease in this country is likely to make diagnosis and treatment difficult. A prompt cure was obtained in the present case, however, and the patient returned to the Sudan.

KALA-AZAR is a chronic, general disease, caused by infection with the protozoon parasite *Leishmania donovani,* principally involving the reticuloendothelial system, and typically characterized by fever, anemia, leukopenia, hyperglobulinemia, and enlargement of the liver and spleen. In the Sudan, as in other areas where it is endemic, it is often confined to limited locales where conditions for its persistence and transmission are favorable.[1] Because its clinical features have considerable resemblance to those of some other febrile diseases, notably malaria, the initial diagnosis may be in error and lead to delay in starting specific therapy, as illustrated by the case presented.

Report of a Case

A 58-year-old Caucasian man was admitted to the medical service of the hospital on September 30, 1963, with complaints of weakness, easy fatiguability, upper abdominal discomfort immediately after eating, and frequent nausea without vomiting.

He had been working as an engineering technician in the Sudan continuously for four years, and had been in good health until July 18, 1963, when he developed a sudden severe chill followed by a high fever. Treatment for malaria was administered by a physician. Chills did not recur after the first few days, but he began to notice gradually progressing fatigue and the gastric symptoms noted. There was no diarrhea.

On August 19, 1963, he flew from Khartoum to Rome and left Naples by ship, arriving in New York on September 12. He was given some treatment for malaria on shipboard, without improvement, and was feeling considerably worse by the time of his admission, with a weight loss of 5 kg.

Although he was in residence at Khartoum, his work had carried him to all parts of the Sudan, including the far south and the east. He had been on a trip to the Dinder Forest area, near the Ethiopian border, in April 1963. There was no history of any illness on this occasion. He had not been taking antimalarial suppressive treatment. There had been many insect bites, but no persistent lesion following any of these had been noticed.

Physical examination showed a well developed and nourished man. He was pale and listless. Heart and lungs were normal. Blood pressure was 150/80. Except for pallor, the skin and mucous membranes were normal. No lymph nodes were palpable. The spleen was enlarged, firm and slightly tender, with the lower pole 10 cm below the costal border. The liver edge was barely palpable on deep inspiration, and was slightly tender. The rest of the examination was not remarkable.

Laboratory studies on admission showed a total leukocyte count of 8,550 with a normal differential. Hemoglobin was 10.2 gm/100 ml. Urinalysis was normal. Erythrocyte sedimentation rate (uncorrected) was 27 mm/1 hr. Venereal Disease Research

From the Medical Service, Salem Veterans Administration Hospital, Salem.

Laboratories (VDRL) test for syphilis was negative. Agglutination tests for typhoid, paratyphoid, and Brucellosis were negative. Total serum protein was 8.4 gm/100 ml; albumin was 3.3 gm/100 ml and globulin was 5.1 gm/100 ml. Serum protein electrophoresis showed a marked increase in the gamma globulin fraction. The aldehyde test for increased serum gamma globulin was strongly positive. Cephalin flocculation test was 4 plus at 24 hours. Serum glutamic oxaloacetic transaminase (SGOT) was 30.3 units. Serum bilirubin was 1.7 mg/100 ml total. Fasting blood glucose and blood urea-nitrogen were normal. Smears of the peripheral blood for malaria were negative. Stool specimens were negative for ova and parasites.

On the fourth day, a specimen of sternal marrow was aspirated, and examination showed the presence of many leishmania.

A fluorescent antibody test on the serum was strongly positive for visceral leishmaniasis.

Oral temperature on admission was 100 F (37.8 C) and there was a uniform diurnal elevation in a single peak averaging 101 F (38.4 C). Notching of the fever curve was rarely present.

Leukopenia developed rapidly with a selective decrease in neutrophilic granulocytes and was accompanied by a progressive anemia.

It was decided to initiate treatment with sodium antimony gluconate, which had to be imported. The plan was to administer 0.6 gm daily in three courses of ten days each, with fourteen day rest periods, a regimen used successfully in Kenya. The drug was injected intramuscularly, starting on the tenth hospital day, when the total leukocyte count was 4300. After five days, the total leukocyte count had fallen to 1250, with a differential count of 35 neutrophils, 18 bands, 44 lymphocytes, 2 monocytes, and 1 eosinophil. The course of treatment was completed. The fever curve was not altered and there was no apparent improvement in the patient's condition. During treatment he had developed an increase in tenderness over the spleen, and pain in the left upper abdomen and in the left shoulder. An x-ray of the chest was normal, and the symptoms were believed to be due to an infarction of the spleen.

Because there was no evident response to antimony, treatment with 2-hydroxystilbamidine was started on the twenty-fourth day, 225 mg being administered intravenously each day for a total of thirty doses.

After a week on this regimen, the total leukocyte count had risen to 3550, and the maximum diurnal temperature was below 100 F (37.8 C) for the first time, and never exceeded 99.2 F (37.3 C) thereafter. The patient began to experience a gradual but steady symptomatic improvement.

On the fourteenth day after completion of this course a 2-hydroxystilbamidine, the laboratory studies showed a total leukocyte count of 5900, hemoglobin 14.8 gm, total serum protein 7.4 gm, with albumin-globulin ratio 1.6 to 1, and serum aldehyde reaction negative.

An aspirated specimen of sternal marrow did not reveal any leishmania.

Although a gratifying therapeutic response had been obtained, it was felt that further treatment might diminish the possibility of a relapse. Another ten day course of sodium antimony gluconate was given, followed by an additional fifteen day course of 2-hydroxystilbamidine.

All treatment was well tolerated, with no immediate or late toxic drug reactions noted.

During the period between admission and the beginning of response to treatment, the patient was given seven 500 ml units of whole blood by transfusion as treatment for a stubborn anemia. There were no untoward reactions.

Three episodes of acute painful swelling over the right first metatarsophalangeal joint occurred during convalescence. These were accompanied by a slight elevation of the serum uric acid, responded promptly to

treatment with colchicine, and were diagnosed as gout.

An intracutaneous test with leishmanin, prepared from a suspension of *L. donovani* leptomonads, produced an indurated area 4 mm in diameter, with no reaction in a control, and was interpreted as positive. This test was performed a few days before the patient was discharged from the hospital on February 2, 1964, at which time he was feeling well. The spleen was barely palpable and not tender, he was afebrile, and the blood picture was normal. He was considered to be cured, or in complete remission. He later returned to his work in the Sudan, and was apparently in good health as late as December, 1964.

Comment

Clinical experience with kala-azar has been largely limited to physicians working in endemic areas, and to those working in centers where infections occurring among members of the armed forces were concentrated during and after the second World War.[2] In the past decade, cases of leishmaniasis have been recognized in this country from time to time, and reported. The various forms of these infections may present problems in differential diagnosis and be confused with less exotic diseases.[3] Even when the parasite has been demonstrated in tissue, it has sometimes been mistaken for *Histoplasma capsulatum*.[4]

The case presented showed the typical features of visceral infection: fever (diurnal, but without the frequently described "double peak"), leukopenia, anemia, hypergammaglobulinemia, and enlargement of the liver and spleen. The diagnosis was clinched by the demonstration of leishmania in the bone marrow, making a biopsy of the splenic pulp unnecessary.

Pentavalent antimonials and the aromatic diamidines have been effective therapeutic agents, but the problem of the most desirable drug for treatment of an individual is illustrated by the apparent resistance of this case to the antimonial preparation first employed, which has been found to be the one of choice in Kenya.[5] It is possible that further treatment with sodium antimony gluconate may have produced a favorable response, but, as noted, it seemed prudent to use another type of drug without delay.

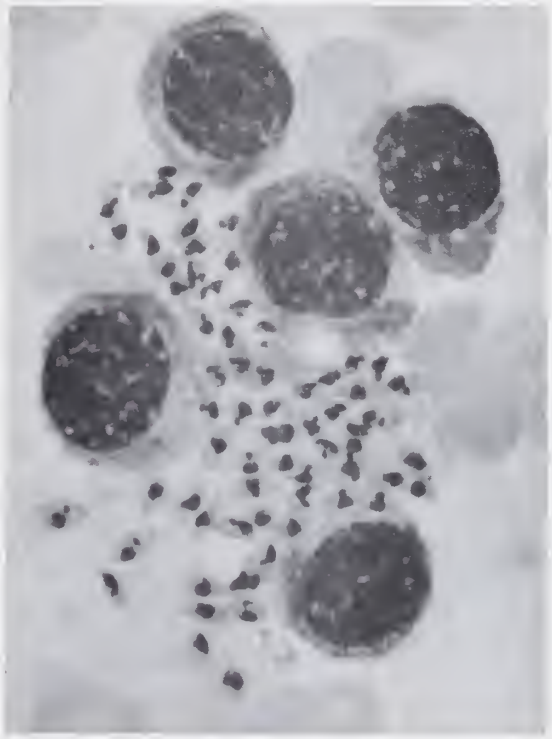


Fig. 1. Sternal marrow aspirate, showing *Leishmania donovani*. Note clearly defined kinetoplasts. (Wright's stain; X2100.)

The aromatic diamidines have been recognized as being usually effective in the Sudanese variety of kala-azar, which is often resistant to the antimonials used successfully in India.[6] Occasional toxicity has been described as a complication of diamidine therapy. In this patient, a vigorous course of 2-hydroxystilbamidine was rapidly effective and well tolerated. This would seem to be the diamidine of choice in the treatment of leishmaniasis,[7] being less prone than stilbamidine to cause trigeminal neuropathy, and not producing the severe, and occasionally fatal, hypoglycemic reactions sometimes occurring during treatment with pentamidine.

The criteria for a successful therapeutic

result were met, as evidenced by cessation of fever, return of the blood picture to normal, decrease in the level of serum gamma globulin. reduction of splenomegaly, and disappearance of the parasites from the bone marrow.

Summary

A case of kala-azar in a Caucasian man, contracted in the Sudan, and diagnosed after his return to the United States, is presented. Findings, treatment, clinical course, and results are discussed.

Acknowledgments

Anthony G. Torre, M.D., performed the bone marrow examinations.

E. H. Sadun, M.D., performed the fluorescent antibody study.

P. E. C. Manson-Bahr, M.D., supplied material for the leishmanin skin test.

The sodium antimony gluconate used in treatment was supplied as Pentostam by Burrough Wellcome and Company, Tuckahoe, New York.

Generic and Trade Names of Drugs

Sodium antimony gluconate—*Pentostam*

2-hydroxystilbamidine—*2-hydroxystilbamidine*

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Ban on Brands—A Body Blow

There is certainly room for generic drugs. But the effort to curb the branding of all drugs would be a disastrous body blow to the public. Countless research efforts, conducted at heavy expense both in money and manpower, come to nothing. Others produce valuable but specialized drugs, needed and used by but a few people who would die without them. The successful drugs in wide use must carry the costs. There is no other way. A trade name is the producer's guarantee of quality. And it rewards research and development which means help to sufferers from the endless ailments which plague mankind. Why put a brake on medical progress—the road to ever better health.—Editorial in *St. Louis County Society Bulletin* (32:5) February 18, 1966.

Teaching the Evaluation of Drug Advertising to Medical Students

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Physicians until the present have developed their own methods for evaluating the advertising of pharmaceutical manufacturers. Now a course is being given in medical school to prepare the student for this task.

FROM TIME TO TIME, spokesmen for the pharmaceutical industry have attempted to justify the expenditure of heavy sums for the advertising of prescription drugs to a limited group as "postgraduate education of the doctor". The character of drug advertising in the United States today under regulation by the Food and Drug Administration[6] has improved considerably since the abuses described by May[5] and others. However, there is reason to believe that many physicians in private practice have been introduced to a large proportion of the drugs they are now prescribing by communications from the pharmaceutical manufacturers. Baehr[1] noted that many general practitioners and specialists in his experience were motivated to shift from one drug to another by the persuasive propaganda of advertising literature and by visiting representatives of manufacturers.

It is clearly desirable for the physician to have a set of guidelines by which he can evaluate the claims that will be made for drugs introduced to the therapeutic scene in the years following graduation from medical school. The course in pharmacology appears to be a logical place to begin to introduce such guidelines and studies of the evaluation of drug advertising have been initiated in the pharmacology courses in some medical schools.[2,3] Typically, a program of drug advertising evaluation is modified in some details from year to year, but the principles can be illustrated by a description of the program most recently undertaken with second year medical students in the Department of Pharmacology at the University of Virginia School of Medicine.

The objectives of the evaluation of drug advertising (EDA) program were: (1) to develop in the medical student a skeptical attitude towards advertising claims for new drugs; (2) to provide the medical student with training and experience in the evaluation of these claims and with some knowledge of the reliability of various authorities. The practical exercise of the EDA program was limited to direct mail advertising although it is recognized that this is only one of several channels through which drugs are advertised. To obtain the necessary material, three cooperating physicians saved all of the drug advertisements and samples received through the mail during the three-month period immediately preceding the project. The program was scheduled during the latter part of the pharmacology course after the students had completed their study of drugs which affect the central nervous system, autonomic nervous system, cardiovascular system and

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kidney. The mass of accumulated mail was gleaned for material advertising drugs in these general categories. Most of the drugs were relatively new but a few older agents were included for balance. Advertised material that included literature references was selected in preference to poorly documented brochures. Although this bias favored the advertising material, it was a necessary concession in order to provide the students with certain leads.

The class was divided into 18 groups of four students each. Therefore, 18 drugs were chosen. All of the available direct mail advertising for one drug was given to one group for their analysis.

At a preliminary session, the students were given their assignment and instructions for the program. The peculiar features of drug advertising and the relative role of direct mail advertising in overall drug promotion were discussed. The volume of drug samples received through the mail during the collection period was dramatized by emptying a large galvanized can containing the drug samples on the lecture table. A considerable portion of the introductory session was devoted to methods for assessing reports of drug trials. The criteria outlined by Mahon and Daniel[4] were emphasized. The method consists of the stepwise application of the following criteria: (1) the presence of adequate controls, including the effects of a placebo preparation as well as standard therapy; (2) randomization of treatments; (3) objective assessment of drug effects, including the principle of the double-blind trial to avoid biased evaluation; and (4) statistical analysis of results. The students were instructed to determine how many of the cited references were actually available in the Medical Library (which has 1250 scientific journals on the subscription list) and what proportion of those available were adequate according to the above minimal criteria. Attention was also directed to other source material such as the Medical Letter, the A. M. A. Council on Drugs reports, New Drugs, etc.

It was not an objective of this program to criticize or rate individual drug manufacturers. The important role of the pharmaceutical industry is emphasized in many ways in this course. During the EDA program, for example, a one-day visit to a nearby pharmaceutical firm was arranged. In addition to seeing the excellent pharmacological and medicinal chemical research and the manufacturing and packaging functions of this firm, the students were addressed by an executive officer of the firm who, by prearrangement, presented much valuable additional material on drug advertising from a viewpoint somewhat different from that of the instructors.

Each group of students was assigned a clinical advisor, usually a physician who had had considerable clinical experience with the assigned drug. The students were instructed to discuss their assignments with their advisor following the introductory session and from time to time during the progress of the program in regard to questions relative to the evaluation of the drug, the other drugs available for comparable therapy, and the state of knowledge in the field for which the particular drug is intended. They were urged to obtain as many opinions on these questions as possible by also consulting other clinical instructors and to consult several pharmacists regarding available preparations and relative costs to the patient of equivalent doses of the assigned drug and of other comparable drugs. Students were offered secretarial assistance if they wished to write to pharmaceutical firms for additional information.

The students were allowed eight hours of laboratory time over a three-week period to work on the EDA program. At the end of the program, each group submitted a written report of their study and each member of the group was prepared to present an oral 10-minute report. The oral reports were presented to the class and dis-

cussed by the class advisors and departmental staff. The person chosen from each group to present the oral report was not announced in advance.

The staff of instructors and the clinical advisors report that the students rapidly developed a skeptical attitude towards the particular advertising claims which they studied. The students were particularly impressed with the number of quoted "references" which were not available even in a good medical library. Many groups found that of the references they could find in the literature only about 5% fulfilled all of the criteria for a satisfactory clinical trial of a new drug, which is in general agreement with results of the large study reported by Mahon and Daniel.[4]

At the end of the pharmacology course, student opinion of various aspects of the pharmacology course was polled in an unsigned questionnaire. The class was unanimous in its belief that a study of drug advertising belonged in a medical pharmacology course. Ninety-five per cent of the class thought that the project outlined in this report was a valuable learning experience and 85% thought that the time allotted to the project was "about right". Further polls of the same class will be sought just before graduation and after a period of time in practice to determine whether attitudes towards drug advertising and reports of clinical trials of new drugs developed as a result of this teaching exercise have been maintained. In the meantime the enthusiasm of the students and the members of the faculty who participated is ample justification for continuing the project with modifications designed to improve the attainment of the objectives or to better suit further developments in drug advertising and regulations of the Food and Drug Administration.

ACKNOWLEDGEMENTS: It is a pleasure to acknowledge the contributions to the success of this program of the A. H. Robins Co., Inc., Richmond, and the following members of the faculty of the University of Virginia School of Medicine: Drs. A. J. Bollet, E. D. Brand, G. Goldstein, C. D. Green, J. I. Kitay, C. M. Kunin, D. N. Mohler, J. A. Owen, Jr., L. E. Rudolf, O. A. Thorup, Jr., and F. B. Westervelt, Jr.

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Clinicopathological Conference . . . .

Anemia, Hepatomegaly and Heart Failure

Prepared and Edited by
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DAVID E. SMITH, M.D.

CLINICAL DISCUSSANT

James E. Respess, M.D.
Associate Professor of Internal Medicine

This conference was held on May 1, 1965

UVH #52-81-75
Autopsy No. 10,022

This was the second University of Virginia Hospital admission for this 76-year old retired carpenter for re-evaluation of anemia.

He was in apparently good health until he fractured two ribs in a fall ten months previously. At that time he was incidentally found to be anemic, and x-ray studies were thought to show a duodenal ulcer. He was also found to have mild diabetes, and digitalis was given for possible congestive heart failure. Treatment of the anemia consisted of blood transfusions. Profound fatigue was present seven months before his last admission here, and anemia was again noted at the referring hospital. A bone marrow was interpreted as megaloblastic, but a course of vitamin B_{12} was ineffective. After a total of approximately 25 blood transfusions he was referred for the first time to this hospital, four months prior to his death.

At this time he had exertional dyspnea and peripheral edema but no orthopnea or nocturnal dyspnea. There was no history of prior angina, hypertension, symptoms of ulcer disease, or documented blood loss. Physical findings at this time included a normal blood pressure, displacement of the cardiac apical impulse to the anterior axillary line, a grade 3 apical systolic murmur, enlargement of the liver and spleen to 4 cm. below the costal margins, and ascites. There was moderate brawny edema of the legs with stasis pigmentation. Otherwise the skin was described as normal.

Laboratory findings included Hct 29%, Hb 8.6 Gm.%, WBC 3,300, platelets 149,000, and normal red cell indices. Stool was negative for occult blood. Reticulocyte count 0.7%, total bilirubin 1.8 mg.% with 0.2 mg.% direct bilirubin, Coombs test negative. Serum iron 110 micrograms %, unbound iron-binding capacity 100 mcgs.%. Bone marrow revealed erythroid hyperplasia. Liver function studies included normal alkaline phosphatase, transaminase, thymol turbidity, and a BSP retention of 7%. Electrocardiogram indicated a possible old, lateral myocardial infarction and auricular fibrillation. Chest x-rays showed generalized cardiomegaly, mostly consisting of left ventricular enlargement. GI series showed only extrinic pressure due to hepatomegaly. Fasting blood sugar was 174 mg.%.

During the period in which these observations were made, a diuresis of the edema fluid was accomplished by the usual means, and there was a spontaneous rise in hematocrit to 37%. Red cell survival studies using Cr^{51} showed a survival time of 17 days (normal 27-35 days) and no evidence of splenic sequestration. A liver biopsy was performed. He was discharged on digitalis and chlorothiazide.

This patient was re-admitted four months later with progressive weakness, dyspnea, cachexia, and recent cough with sputum. He was unable to give a coherent history. Additional physical findings included jaundice; rhonchi, wheezes and rales over the entire chest; and increased size of the liver. There was probable elevation of the jugular venous pressure. There was no

ascites or peripheral edema at this time. Cardiac findings were unchanged, and he was afrebrile. Laboratory studies included Hct 19%, WBC 8,000, normal platelets, guaiac-negative stool, fasting blood sugar 180 mg.%, bilirubin 5.5 mg.% (1.5 mg.% direct), and no change in the electrocardiogram. BSP retention was 29%, and cephalin flocculation 3+. Alkaline phosphatase and SGOT remained normal. Serum iron 160 microgram %, unsaturated iron binding capacity 100. Bone marrow showed normoblastic erythroid hyperplasia, with 78% ringed sideroblasts on an iron stain. The patient was treated with transfusions of packed red blood cells, digitalis, diuretics, and tetracycline. On the fourth and fifth hospital days he developed high fever and signs of pulmonary edema as well as pneumonia, which failed to respond to the usual measures.

Clinical Discussion

Dr. James Respess: In reviewing this case with my associates, Dr. Massie and Dr. Hoyos, we all agreed that there were several important diseases or areas of disease involved in this man's death after about a year of illness. He had mild diabetes, heart disease, liver disease, and anemia. We have to decide whether to tie all of these together in a single process affecting several systems, or whether several unrelated diseases happened to occur at the same time in a single individual. We were told that he had atrial fibrillation and a probable old myocardial infarction from the electrocardiogram. Why couldn't this simply be arteriosclerotic heart disease with congestive, cardiac cirrhosis as the cause of his bilirubinemia and, later, obvious jaundice? This would involve leaving the anemia as a separate problem. Anemia may occur due to various mechanisms in chronic liver disease, including cardiac cirrhosis, but the anemia was too severe here to accept that possible connection. How about making the liver disease the primary event? This would probably leave us not only with the severe anemia, but would require bringing in a separate, additional cause of the heart disease. "CPC-manship" prohibits that much splitting up of a diagnostic problem.

If a disease of the blood is taken to be the primary event, this begins to make more sense. Everyone will have recognized that a combination of heart disease, liver disease, and mild diabetes sounds like hemochromatosis. We will come back to this point in a moment. Nevertheless, I am unaware of anemia being a part of hemochromatosis. This man's anemia was originally blamed on blood loss because a duodenal ulcer was found on the x-rays. With the advantage of hindsight, we can say how important it would have been to document either the existence of blood loss by the testing of stools, or to have characterized the anemia as iron-deficiency in type, or preferably to have done both of these, before accepting the ulcer as an explanation at that time. When this explanation failed a few months later, the mechanism of the anemia was studied to the extent of obtaining a bone marrow. If megaloblasts were really present, then the vitamin B_{12} was a logical form of treatment, but in any case it was not enough.

When this man came to us, he was anemic despite multiple transfusions and vitamin B_{12}, there was no evidence of continuing blood loss in the stools, and his serum iron was normal. At this point I become confused. There is enough elevation of indirect bilirubin, and later a shortened red cell survival time, to suggest a hemolytic mechanism, but the reticulocytes were normal and the Coombs test negative. Dr. Thorup, can you un-scramble these findings, and comment on whether they are compatible with hemochromatosis?

Dr. Oscar Thorup: It might be best to ignore the first serum iron measurements, which were done at a time the blood picture was changing and transfusions had been given. The later serum iron was done at a time of severe anemia, and was at the

upper limit of normal. The fact that the iron was nearly 70% of the total iron-binding capacity means that the binding system was nearly saturated. The main cause of this unusual finding is hemochromatosis. Another condition in which this is found is associated with ringed sideroblasts.

Regarding your question about hemolysis, the elevation of indirect bilirubin, particularly with only slight abnormalities of the other liver function tests, plus the evidence of a shortened survival time, does indicate hemolysis. The lack of reticulocytosis suggests that the marrow was not keeping up. The negative Coombs test suggests that the hemolysis was not on an immune basis. It is hard to say how much the hemolysis contributed to the anemia. The red cell survival time of 17 days is a moderate reduction, but the degree of anemia seems to have varied unrelated to treatment at different times during this illness.

Dr. Respess: Thank you, but you have confused more than helped me regarding the mechanism of the anemia. At this point I would guess that it is due to some combination of liver failure and unrecognized blood loss. We have no particular reason to invoke portal hypertension and varices here, but low-grade oozing of blood from the gastric mucosa is quite common in that setting.

Dr. Hunter: I can't accept that explanation. Twenty-five units of blood in a few months! That's really anemia! This must be some new disease. Another point is that I object to talking about CPC cases as different from any other cases. We ought to decide on whether to make several, independent diagnoses simultaneously in a single patient, or else to try to tie a lot of threads together, on the basis of the logic of the situation rather than on the basis of what we think a CPC case ought to be. Why is a red cell survival of 17 days only a moderate reduction? Isn't the estimated life span of a red cell about 120 days?

Dr. Respess: Under the helpful influence of Dr. Hunter's remarks, it might be best for me to back off somewhat in offering unrecognized blood loss plus liver function impairment as sufficient explanation for the anemia. The hemolysis may have been quite brisk, and perhaps the liver disease is hemosiderosis secondary to the multiple blood transfusions. I shall ask Dr. Thorup to clarify how long a red cell lives. We know that a needle biopsy of the liver was performed and presumably it contained some information that was worth withholding from the clinical protocol.

Dr. Smith: You are welcome to look at this biopsy section if you wish.

A physician: Is it possible to distinguish hemosiderosis due to multiple transfusions from primary, endogeneous hemochromatosis?

Dr. Thorup: I do not believe it is really possible by physical examination, though the history would be of help. Pathologists still argue the point. In primary hemochromatosis there has usually not been severe anemia and a history of multiple transfusions. Dr. Hunter has raised the question about the statement that the normal red cell "survival time" is about 28 days. The average lifetime of a red cell is actually about 120 days. That stated normal "survival" value of 27 to 36 days is the normal "half-life"; that is the period during which the level of radioactivity in blood due to re-infusion of an aliquot of labelled cells falls to half the level found immediately after re-infusion. Part of this fall is due to elution of indicator from cells which are still intact, but this is slight. If the level falls to half of the initial level in less than about 25 days, it means that a larger-than-normal number of the cells in the infused sample have been removed from the circulation in that period.

Dr. Respess: I believe that the liver biopsy and autopsy will show findings of hemochromatosis to explain the hepatomegaly, heart disease and diabetes. In addition, he had an anemia which I don't understand, and for which liver failure,

unrecognized blood loss and hemolysis of unknown cause may have been responsible.

Pathological Discussion

Dr. Smith: I would like to show you first a picture of the biopsy of the liver (Fig. 1). It is characterized by the presence of gran-

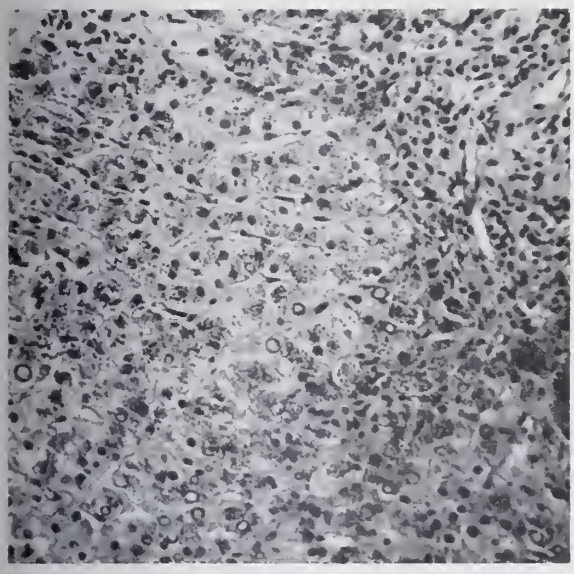


Fig. 1. Liver biopsy with portal fibrosis and hemosiderin granules in the hepatic cells but not in reticuloendothelial cells. The features are those of hemochromatosis rather than hemosiderosis. (H. and E. stain; X 450.)

ules of hemosiderin the cytoplasm of hepatic cells, the absence of impressive amounts of hemosiderin in Kupfer cells, and slight portal fibrosis with an accompanying infiltrate largely of lymphocytes. This distribution of iron accompanied by evidence of cirrhosis suggests the diagnosis of hemochromatosis rather than a secondary hemosiderosis. The atypical features of this case, such as the patient's age, anemia and the history of blood transfusions, suggests the classification of exogenous rather than the idiopathic primary disease.

The autopsy principally confirmed the impression gained from the biopsy. The liver was enlarged, laden with iron, and cirrhotic, although the latter was not of typical appearance, being characterized more by irregular scarring than by regeneration. The spleen was enlarged to triple normal size but also devoid of hemosiderin (Fig. 2). The pancreas was a rusty brown and had interstitial fibrosis, atrophy and

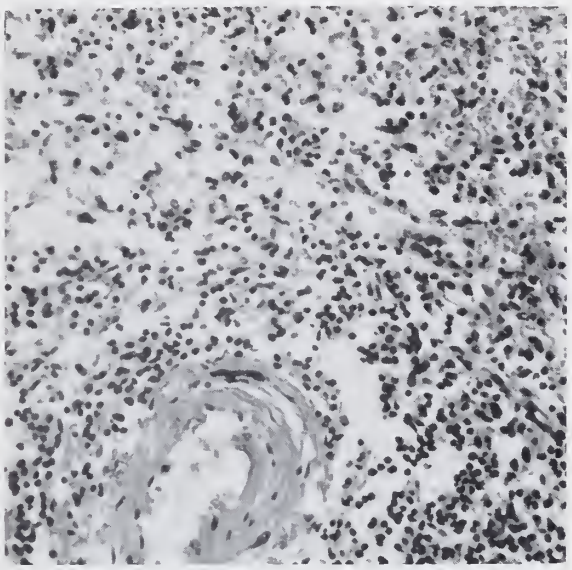


Fig. 2. Spleen with almost no hemosiderin in reticuloendothelial cells, a situation that contrasts with the deposition of parenterally administered iron in a normal person. (H. and E. stain; X 450.)

hemosiderin in acinous cells as well as in small amounts in islet cells (Fig. 3). The

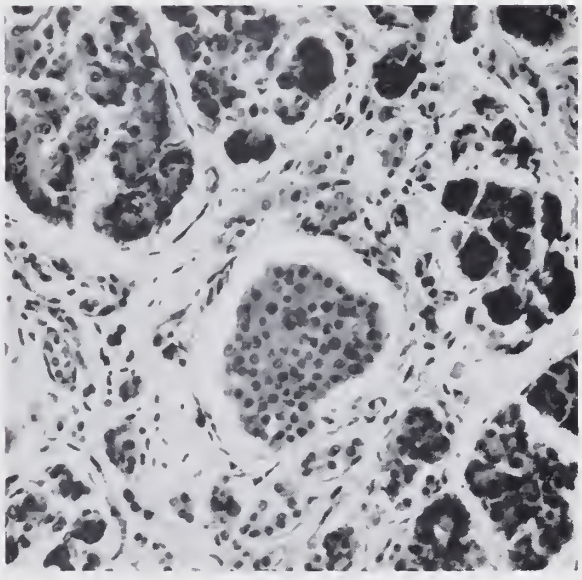


Fig. 3. Pancreas with changes typical of hemochromatosis: atrophy, interstitial fibrosis, and hemosiderin granules principally in epithelial cells. The iron granules appear as dark aggregates in the acinous cells and a few could be recognized in islet cells. (Gomori iron stain; X 450.)

bone marrow was hyperplastic with the erythroblastic component particularly increased (Fig. 4). In the enlarged heart there was marked atherosclerosis of the cor-

onary arteries and several scars, particularly at the apex of the left ventricle. Micropically, the myocardial fibers contained a few

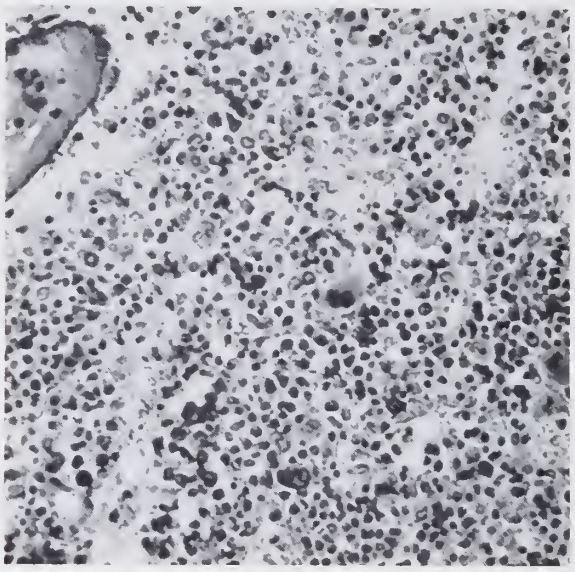


Fig. 4. Hyperplasia of vertebral bone marrow, especially of the erythroblastic series. Sideroblasts were identified in smears of cells extruded from this specimen. (H. and E. stain; X 450.)

granules of hemosiderin, but the most striking change in addition to the scarring,



Fig. 5. Myocarditis indicated by interstitial leukocytic infiltrates without myocardial necrosis. There were also scars of old infarction, and the dark masses in the upper central portion of the illustration are hemosiderin in two of the few myocardial fibers that showed such a change. (Gomori iron stain; X 300.)

which appeared to be that of old infarction, was the presence of leukocytic interstitial infiltrates in several areas (Fig. 5). These represented a myocarditis that may well have been of considerable importance in the terminal course. Signs of congestive failure were apparent in the edematous lungs that also contained foci of bronchopneumonia in the lower lobes, 500 ml of hydrothorax bilaterally, and the general appearance of the viscera, which contained no other significant lesions of relevance to the principal disease.

From a strictly anatomic standpoint, the diagnosis indicated is hemochromatosis. The presence of hemosiderin within parenchymal cells of the liver, pancreas and other organs without loading of the reticuloendothelial cells is in contrast to the pure picture of parenterally administered or transfused iron. Fibrosis in the liver and pancreas are evidence of a damage that cannot be induced in most animals by the mere presence of excess iron. The existence of human

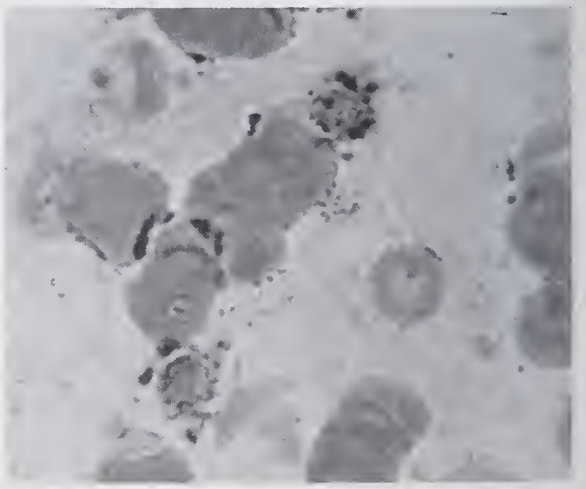


Fig. 6. Ringed sideroblasts in a film of the bone marrow biopsy. The normoblasts in the upper center and lower left portions of the illustration contain coarse granules of hemosiderin about their nuclei. Other dark granules in the illustration are not stained specifically in the original film. (Gomori iron stain; X 1450.)

cases of multiple transfusions with the hemosiderin principally in the reticuloendothelial system and no parenchymal fibrosis indicates that the human being also inherently reacts to excessive parenteral iron in this same manner.

The unusual story of this patient alerts us to the possibility that this is not a case of primary idiopathic hemochromatosis despite its many similarities in histologic

changes and the presence of cirrhosis and mild diabetes. There is obviously an anemia which might be considered to be of the achrestic or "aplastic" type. This is, of course, the sort of situation that has led to the creation of the category of exogenous hemochromatosis.[1,2]

Dr. Thorup: The key piece of information in this clinical protocol was the report of "ringed sideroblasts" (Fig. 6) in the peripheral smear. Sideroblasts are red cell precursors, which have clumps of iron (siderotic granules) in the cytoplasm. They are present in normal marrow to a certain extent. Several years ago it was recognized that the refractory, or hypoplastic anemias, were a heterogeneous group. In certain cases the marrow shows "erythroid hyperplasia". These cases have in common an inability to utilize iron, which is available in ample amounts for hemoglobin manufacture. Hence, they usually show an increase in these iron-containing sideroblasts in the marrow. The marked increase in iron granulation in the cytoplasm may give rise to the ringed appearance about the nucleus. This phenomenon may be seen secondary to lead poisoning, pyridoxine deficiency, thalassemia or possibly chronic infection. It occurs on an hereditary basis occasionally. In these situations the red cells in the peripheral blood tend to be hypochromic and microcytic.

In acquired, refractory sideroblastic anemia the cause of failure of iron utilization is usually unknown. A dual population of red cells is often found in the peripheral smear, part hypochromic and part normochromic. There is a form of "partial maturation arrest" in the bone marrow, and it could be confused with megaloblastic arrest, as occurred earlier in this case. Radioactive iron studies reveal rapid plasma clearance associated with decreased utilization of the iron.[3] The serum iron may be normal or increased. The red cell survival time is usually normal but may be slightly reduced. The degree of anemia varies from mild to severe. The clinical course is often relatively benign, but some patients, like this one, developed features of hemochromatosis. This is a form of what has been called ineffective erythrompoiesis.

Dr. Smith: The recognition of this phenomenon of sideroblastic anemia is an important clue that may resolve several difficulties in our concepts of hemochromatosis. It is apparently a disorder of iron metabolism within the erythroblasts, and the erythroblast might be just a sensitive indicator of a more widespread disorder of iron metabolism that is present in all cells. Such a defect would lead first to an anemia, and after exposure to excess iron in transfusions for treatment of the anemia, there could develop an excessive storage of iron in other cells due to the same inadequacy of metabolic mechanisms in these cells. This could conceivably partake of many of the features of idiopathic hemochromatosis, which is easiest to think of as a metabolic defect of iron metabolism particularly manifest in epithelial cells such as those of the liver, pancreas, stomach, and other sites. Such a mechanism probably will not explain all cases of exogenous hemochromatosis, but the concept will allow for the failure of persons without the defect to develop a pattern any more complicated than simple hemosiderosis even after many transfusions. The recent literature indicates a considerable interest in this disorder and its implications.[4,5]

FINAL ANATOMICAL DIAGNOSIS: *Sideroblastic anemia with hemochromatosis; coronary arteriosclerosis and old infarcts of the heart; acute myocarditis; congestion, edema and bronchopneumonia of the lungs.*

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Favorite Targets of Mosquitoes

Mosquitoes play favorites among the people they bite.

According to the July Today's Health magazine, published by the American Medical Association, certain characteristics may make you a stand-out target for mosquitoes.

You're most likely to be bitten if you:

—*Have a dark complexion.* In experiments at the University of Western Ontario, naturally dark-skinned persons attracted 22 per cent more mosquitoes than light-skinned persons. Orientals attracted 27 per cent more mosquitoes than Caucasians, and Negroes attracted 60 per cent more than white persons.

—*Are warm-skinned.* The average internal temperature of healthy humans doesn't vary much from 98.6 degree fahrenheit, but there is a considerable variation in skin temperatures. Experiments showed that warm-skinned persons attracted 30 per cent more mosquitoes than those with cooler skins.

—*Are in good health.* Researchers at Union Carbide Corporation have discovered that mosquitoes put the bite on healthy "outdoorsy" types much more frequently than on persons in poor health.

—*Perspire moderately.* The more a person perspires—up to a point—the higher his "attractivity index" to mosquitoes.

—*Breathe heavily.* Apparently it is the carbon dioxide in expired air that helps guide the mosquito to its target.

—*Are highly active.* The energetic person constantly on the move is the one who attracts the mosquito's attention.

—*Wear perfume, cologne, or after-shave lotion.* Anything with a "noticeable fragrance" seems to bring on the bites.

—*Wear dark clothing.* Cloth of 32 textures and colors has been studied, and without exception the less light that a material reflected, the more attractive it was to mosquitoes. Stated another way, the duller your clothing, the more attractive you'll be to mosquitoes. They prefer black, dark reds and dark blues instead of white, yellows, and light greens.

The author, Clifford B. Hicks, points out that you can minimize mosquito attacks this summer. Dress in light clothing, bathe frequently, cut down on strenuous activity, and take it easy on perfumes and aftershave lotions.

Correspondence . . . .

Highway Safety

To the Editor:

I think all physicians interested in highway safety share Dr. Buttery's concern over the ever increasing highway death toll. I don't believe, however, that Dr. Buttery is acquainted with the active role some Virginia physicians have played in the field of automotive safety, and in spite of the agonizing slow progress in the past, they will continue to play a leading part in the prevention of automotive deaths and injury.

As long ago as 1948 Dr. Fletcher Woodward of Charlottesville advocated the changes in automobile design mentioned in Dr. Buttery's letter. For his outstanding work in highway safety over the years, Dr. Woodward achieved national fame and recognition. His writings encompass the many factors needed to lower the highway death rate—meaningful legislative programs, improved driver training courses, the medical aspects of driver certification, automotive design, control of the drinking driver, and other significant elements influencing highway safety.

The interest of the Federal Government in the traffic problem actually started in President Truman's administration with the organization of the Highway Safety Commission so that Federal participation in traffic safety is not new. The present hopeful action of the government is the result of the desire of President Johnson to really tackle the problem.

It will be of interest to Dr. Buttery to know that the past General Assembly established a Virginia Traffic Study Commission, and all citizens will be given an opportunity to participate in the study.

Francis H. McGovern, M.D.
Chairman, Committee on Highway Safety

June 23, 1966

Report of Incident, "Summer Sylvan Hazards"

To the Editor:

Following a recent reception into The Virginia Historical Society, The Association for Preservation of Virginia Antiquities and the Virginia Archaeological Association, I became aware that graves of persons born before 1800 are not often seen in this part of the State, especially those which bear old marked monuments.

Desiring to locate and document isolated and older graves I welcomed any opportunity to accept help in finding such. At about 3 P.M. on June 19th I was about 1½ miles northeast of U.S. 360 near its junction with 304, and in woods along an abandoned farm road. I felt a sudden, sharp pain in my left foot at the ankle, medial border. Inspection showed only a break in the skin such as might have been inflicted by a dead limb. Having seen nothing amiss I continued in a successful mission, finding a large flat slab bearing the dates "William Thompson 1759-1814".

As time passed I was aware of progressive soreness along all tendons of my left foot. Later I noted a limp. After getting out of my car at home at about 5 P.M., I noted swelling nearly to the knee with slight ecchymosis near the original site of pain. Not until about a half hour later when I was in a wheel chair at the hospital did I have any systemic reaction—nausea, weakness and syncope followed by profuse sweating. Because no snake was ever seen, anti-venom was not given. Treatment consisted of ice packs, tetanus toxoid booster and Chymoral®.

The course of the damage was that of

swelling to the upper third of the left thigh, with extensive ecchymosis and moderate pitting oedema extending from the inner border of the left foot along the medial border of the leg and the lower third of the thigh. The dark purple color is giving way to a yellowish green along the borders. There is no pain when the limb is at rest yet pressure or motion produces pain. The maximum area of discoloration and oedema is in the left calf, medially, yet the point of injury was below the internal malleolus.

Summary: The preceding is a subjective account of a snake bite.

Conclusion: (1) site of injury may not be typical.

(2) initial swelling is apparently due to damage to lymphatic system.

(3) ecchymosis appears later and resolves slowly.

(4) systemic reaction; nausea, syncope, shock, in this case was delayed by about three hours.

(5) conservative treatment in this case was effective.

(6) wear protective clothing or else stay out of the woods.

Nathaniel H. Wooding, M.D.
Medical Examiner
Halifax County, Va.
Halifax, Va.

June 25, 1966

Live and Learn with New Drugs

There is no simple answer to the question "How Safe are Drugs?" The effective drugs available today have varying degrees of potentiality for producing harmful effects. Can drugs be developed with such specificity of action that all effects but the one desired would be eliminated? This is something to hope for but the reactive mechanisms of the body may also have limits of specificity. If we have to live with new drugs which occasionally produce adverse effects, less trouble will occur if the physician uses them wisely. He can do this only by learning as much as possible about them before he prescribes them and then passing along any additional information gained from his own experience.—Ralph G. Smith, M.D., in *Journal of New Drugs* (6:62-68), January-February, 1966.

Mental Health . . . .

JULIAN C. HOUSEMAN

General Assembly Action Affecting Mental Health Laws

While the State Department of Mental Hygiene and Hospitals fared extremely well in budgetary appropriations during the 1966 General Assembly, important legislation concerning mental health laws was also passed.

Provision was made to recodify Title 37 and other related statutes so as to have a simple, complete and modern body of law in the field of mental hygiene. An appropriation of $15,000 was made to do this with instructions to the Virginia Code Commission to make a report to the Governor by October 1, 1967.

Amendments were made to existing statutes providing patient protection and providing for hospital admission in varying situations. Title 19 of criminal procedures was amended to provide added protection for persons charged with a crime and committed for observation. In such cases the burden of returning such persons to the place of original confinement is now placed upon the court which exercised jurisdiction in the commitment. Other changes now credit the time he stayed in the mental hospital against any subsequent sentence which may be made and provide the person, involved in any proceedings under this title, with an attorney if he is unable to employ one with his own finances.

Another amendment to Title 19 directs courts to commit any defendant acquitted of a crime on the grounds of insanity to a State mental hospital for criminal insane for observation of a minimum of ninety days. A similar piece of legislation subjects persons acquitted, dismissed or discharged of crimes by reason of being alcoholic to commitment and control of the Department of Welfare and Institutions, the Health Department or the Department of Mental Hygiene and Hospitals for treatment of alcoholism.

Voluntary admission of inebriates is now provided under a new section passed by the General Assembly. Previously alcoholics could be admitted for treatment in the hospitals only after formal commitment by a commission composed of two physicians, a lawyer and a judge.

Legislation dealing with employees of the Department of Mental Hygiene and Hospitals includes:

1—Providing attorneys for various hospital employees for the defense of charges arising out of any act committed in the discharge of official duties, subject to the approval of the Governor.

2—Allowing certain cities, towns and counties to supplement State compensation to certain specified professional employees.

3—Permits the retention of physicians after they have attained the age of 70 years.

4—Increased the per diem of State Hospital Board members from $15 to $20.

An appropriation of $141,000 was made for drawing plans for a 500-bed hospital for mentally retarded persons to be established within an area composed of Fauquier Loudoun, Prince William, Arlington and Fairfax Counties. The site for such hospital is to be provided by the governing bodies of these counties. The five named counties and the cities of Alexandria, Falls Church and Fairfax are authorized to accept funds for acquiring the hospital site.

House Bill 55 strengthens the practice of clinical psychology in the State; stipulates

HOUSEMAN, JULIAN C., *Information Director, Department of Mental Hygiene and Hospitals.*

Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

a license to be issued by the State Board of Medical Examiners instead of the present certificates; adds a clinical psychologist to the membership of the Board of Medical Examiners and provides that psychologists licensed by the Board may administer the techniques of psychotherapy in his office and away from the supervision of a psychiatrist or other medical doctor.

Other miscellaneous legislation transfers the ownership of the mobile psychiatric clinic from the Department of Mental Hygiene and Hospitals to the Department of Welfare and Institutions; permits the sale of certain property at DeJarnette State Sanatorium and the retention of the proceeds from the sale in the special funds of that hospital; permits the transfer of a tuberculosis hospital from the Department of Health to the Department of Mental Hygiene and Hospitals and adds mental retardation facilities and mental health centers to the State Hospital Survey and Construction Law.

Who Gets Stung?

In adults, the head and neck, followed by the feet, are the most frequent areas to be stung by bees, wasps, yellow jackets and hornets, but a recent study of 73 children aged 2 to 16 shows that feet come first.

"This is presumably due to the childhood practice of going barefoot in summer," reports Dr. Claude A. Frazier of Asheville, N. C. Which youngsters are most likely to be stung and what type of reaction may occur can be predicted, he believes.

The sting-prone child is a five- to eight-year-old boy who is playing on the lawn or near flowers. "He is barefooted and bareheaded and is dressed in gaily colored and rough fabric clothing. Sweet-scented hair oil keeps his wayward locks in place. Excess energy is being expended in locating a honey bee and chasing it about the garden in an attempt to capture it."

A local reaction may be anticipated in a preschool child with a history of nasal and penicillin allergies, who has kept his shoes on but is stung on the arm during July by a yellow jacket. Preceding stings—one a year—have resulted in a local reaction.

A generalized reaction is most likely to occur in a teenage boy who is not allergic but may have a family history of allergy. He steps on a honey bee or hornet during July and has a generalized reaction.—*West Virginia Med. J.*, April, pp. 99-108. (Schering Science Bulletin)

Current Currents

AMA DUES: The House of Delegates of the American Medical Association, by a vote of 168 to 46, has approved an increase in AMA annual dues from $45 to $70—effective January 1, 1967.

In approving the dues increase, the House accepted a reference committee statement which said: "It is quite apparent that the programs necessary to serve the needs of the members of the Association cannot be conducted effectively without adequate financing and it is equally apparent that such adequate financing is impossible without the dues increase requested by the Board of Trustees. Your Reference Committee reaffirms its confidence in the judgment of the Board of Trustees which has in the past and must in the future exercise the most careful and prudent stewardship over the assets of the Association. The Board of Trustees is the Committee elected by the House of Delegates to investigate and control the finances of the Association. The appointment of any other committee to perform this function would be most inappropriate."

DIRECT BILLING: In connection with the Medicare part of Public Law 89-97, the House also adopted three resolutions which recommended that physicians use the direct billing method rather than the assignment procedure. At the same time, the House pointed out that adoption of these resolutions should not be interpreted as contravening the statement approved at the Special Session in October, 1965, which said:

"The American Medical Association opposes any program of dictation, interference or coercion, whether direct or indirect, affecting the freedom of choice of the physician to determine for himself the extent and manner of participation or financial arrangement under which he shall provide medical care to patients under Public Law 89-97."

In considering a resolution on the right to bill patients under Title 19 of the law, the House passed an amendment pointing out that direct billing has been recommended as the billing method of choice under Title18 by the Board of Trustees and the Council on Medical Service. It then said that since there is a wide latitude available to the states in establishing administrative procedures under Title 19, each state medical association should work early and diligently in its own state so that any plan or law adopted in its state for approval under Title 19 would include authorization for direct billing.

The House also instructed the AMA Advisory Committee to the Department of Health, Education and Welfare to do all in its power to implement the intent of the resolution at the national level. In addition, it called on AMA and state societies to maintain added vigilance to eliminate any patterns which might subvert the intent of Title 19.

HOSPITAL-BASED PHYSICIANS: The AMA House of Delegates has adopted a resolution of great significance to all physicians. It reads as follows:

"The Principles of Medical Ethics declare that a physician shall not dispose of his services to a third party or 'lay' organization, and

"Title XVIII of Public Law 89-97 recognizes the principle of the separation of professional and hospital costs for services rendered by hospital-based physicians; and

"This principle has been advocated by the AMA, the American College of Radiology, the American College of Pathologists, and many regional organizations, and

"A great number of hospital-based physicians throughout the nation have declared their intention to bill separately for their professional services in keeping with this principle; therefore be it

"Resolved, That, since separate billing by the physician for his professional services is a preferred ethical practice, it shall be deemed unethical for a physician to displace a hospital-based physician who is attempting to practice separate billing when said displacement is primarily designed to circumvent separate billing."

LEGISLATION IN BRIEF: Senator Hart (D., Mich.) has announced his intention to hold public hearings in late August on his bill S. 2568, which treats the whole area of physician dispensing of drugs, eye glasses, appliances, physician ownership of pharmacies, drug repackaging companies, and other such matters.

Senator Long (D., La.) has introduced a bill (S. 3614) which will require the government to pay for drugs under Medicare, and all public assistance programs, only on the basis of generic prescribing.

COMMUNITY HEALTH WEEK: All local medical societies have been urged to develop appropriate programs marking the fourth annual observance of Community Health Week, and to encourage other members of the community health team to join with them in planning and carrying out such activities.

Community Health Week is a time for all local members of health professions and health organizations—public, private and voluntary—to conduct communitywide activities emphasizing the continuing theme of the observance—"Teaming Up for Better Health."

Primary objectives of this nationwide observance are to stimulate greater public awareness and appreciation of the wealth of health facilities and services which are available at the community level and to stress the health progress and medical advances which have been made locally through the united efforts of all members of the community health team.

Rickettsial Disease

Rickettsia are small gram-negative pleomorphic bacterial-like coccobacilli found in the alimentary tract of insects and arthropods. They may cause disease in both animals and man.

The Rickettsia lie somewhere between bacteria and viruses, possessing characteristics common to both. They are unable to pass through ordinary bacterial filters or grow on ordinary bacteriologic media. They grow and multiply within the nucleus and cytoplasm of cells showing that their metabolic requirements are like those of viruses. Rickettsia can be resolved with the ordinary light microscope and stain well with Giemsa and Machiavello's stains.

The species was described by da Rocha-Lima in 1916 who named the microorganisms, found in lice taken from patients with typhus fever, Rickettsia prowazekii, in honor of Dr. Howard Ricketts, an American, and Dr. S. von Prowazek, an Austrian, both of whom died of typhus fever while investigating the disease.[1]

The rickettsial diseases are divided into four main groups on the basis of their clinical features, epidemiologic aspects and immunologic characteristics. The four groups are:

1. Typhus group
2. Spotted fever group
3. Scrub typhus
4. Q fever

Trench fever, a rickettsial disease, caused by Rickettsia quintana is not classified in the above four groups because the etiologic agent multiplies extracellularly *in vitro*.

Typhus Group

This group includes epidemic (louse-borne) typhus, murine (flea-borne) typhus and Brill-Zinsser disease (recrudescent typhus).

The major differences between diseases in this group are the severity of the disease, geographic distribution, and the number of people affected.

Brill-Zinsser disease is a recurrent form of epidemic louse-borne typhus which occurs many years after the initial attack of epidemic typhus.

Spotted Fever Group

This group includes Rocky Mountain Spotted Fever, Rickettsialpox and many similar tick-borne rickettsioses named for the locale in which they occur, e.g. African tick fever.

The most important of this group is Rocky Mountain Spotted Fever which is confined for the most part to the western hemisphere.

The vector and reservoir for Rocky Mountain Spotted Fever is the tick. The most important ticks are Dermacentor andersoni, the wood tick, which is the principal vector in the west, and Dermacentor variabilis, the dog tick, which assumes this role in the east.

In the southern gulf states, Amblyomma americanum, the Lone Star tick is the most important vector.

The vector of Rickettsialpox is the mite, Allodermanyssus sanguineus, which is found on the common house mouse. This disease is confined mainly to the North Atlantic Seaboard States.

Q Fever Group

In this group there is only one disease, that being Q fever caused by Coxiella burneti. The disease causes an acute systemic reaction characterized by chills, fever, severe headache, and lobar pneumonia. In contrast to the other rickettsial diseases, there are no cutaneous manifestations.

Q fever is worldwide in distribution and

occurs in epidemic forms. Arthropods do not appear to be an important vector. The disease is transmitted from animal to animal, domestic cattle being the most important animal in the transmission of the disease.

Scrub Typhus Group

Scrub typhus is an infectious disease caused by Rickettsia tsutsugamushi, and is primarily confined to Japan, India and Australia. Scrub typhus is important from a military standpoint in the southwest Pacific.

In Virginia the two most important rickettsial diseases are Rocky Mountain Spotted Fever and murine typhus. Rickettsialpox and Q fever are nonreportable diseases.

In 1930 Rumerick differentiated spotted fever from endemic typhus clinically and epidemiologically in Virginia and Maryland. This was the first reported case of spotted fever east of the Dakotas. In Virginia from 1931-1942, there were 482 reported cases of spotted fever and 133 cases of typhus fever.[2] For the years 1949-1958, 588 cases of spotted fever were reported.[3]

Lamb et al.[4] in a study of the ecology of RMSF summarized some interesting facts derived from 171 cases occurring in Virginia between 1960-1963. Of these 171 cases, 59% occurred in children under 14 years of age with sexes being equally affected. The greatest number of cases occurred in the Piedmont area with urban, suburban and rural localities being equally important as sites of the disease. The seasonal prevalence of the disease corresponded with the period of greatest activity of the dog tick. The long held concept that Rocky Mountain Spotted Fever is a disease of young adult males primarily in rural areas is no longer true.

Murine typhus has a seasonal incidence which is maximal in summer and fall. Hendernson in a study of the cases of typhus in Virginia noted that 74% occurred between June and November. In contrast to Rocky Mountain Spotted Fever, typhus is a disease of the urban population, and the most important factor influencing the occurrence of murine typhus is residence or occupation in areas where rats abound. The disease occurs particularly around wharves and docks and this is one reason the disease is more common in the eastern part of the State.

The diagnosis of rickettsial diseases is made primarily by history and physical examination. The most important physical finding is the nature and distribution of the rash which occurs in all of the rickettsial diseases except Q fever. In Lamb's study of 171 cases of Rocky Mountain Spotted Fever in Virginia for the years 1960-1963, he found measles to be the most frequent misdiagnosis of this disease.[4]

There are several laboratory procedures which may be of help in the diagnosis of rickettsial diseases. During the first week of the disease rickettsiae may be isolated by inoculation of whole blood intraperitoneally into mice or guinea pigs. Animals that show evidence of illness may be sacrificed and impression smears made from the spleen, parietal peritoneum or tunica vaginalis and stained with Giemsa or Machiavello stain. Complement-fixation tests are available for all of the rickettsial diseases except trench fever. It should also be remembered that in using complement-fixation tests it is best to collect three serums; one during the first days of illness, one during the second week and one during the fourth week. In evaluation of the complement-fixation tests antibiotics may delay the antibody response for four to six weeks.

The Weil-Felix reaction is the oldest serological test used as an aid in the diagnosis of certain rickettsial diseases. This is based on the fact that patients with typhus and spotted fever form antibodies to certain strains of Proteus (Proteus OX19, OX2, and OXK). This is a simple agglutination test done on paired serums and the antibody rise occurs late in the second week of the disease. The Weil-Felix Test is not usually

affected by antibiotics; however, a Proteus infection may cause a positive Weil-Felix reaction.

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Medical College of Virginia
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Decline in Measles.

Approximately 12 million American children have been immunized against measles (rubeola) since vaccine was licensed three years ago, and there has been a major decline in reported cases.

The Medical News section of the May 23 Journal of the American Association reports these preliminary figures from the U.S. Public Health Service:

During the first 17 weeks of this year, reported cases were down to 125,966, compared with 162,029 for the same period in 1965. Last year's total reported cases (266,222) were less than half the number of a decade earlier (555,156 in 1955).

The chief of the Communicable Disease Center, David J. Sencer, M.D., cautioned, however, that reported measles cases probably represent only about 10 per cent of the actual number. Even with immunization of an estimated 12 million youngsters —reducing measles-susceptible population by about 40 per cent—there are more than 12 million left.

A key factor in eradicating measles is the cooperation of practicing physicians. Physicians should include measles immunization in their private practices and help educate parents to the seriousness of the disease.

The annual death rate attributed to measles continues to average more than 400 in recent years. If the ratio of cases to fatalities holds, however, final figures for 1965 may show a decline in deaths to about 240.

Some children react to the "live" vaccines being used, but this has been "greatly overplayed. Children tolerate measles vaccine very well." About 15 per cent of those receiving two types of live attenuated measles vaccines may experience rather high fever, beginning about the sixth day after vaccination, and lasting no longer than five days.

One vaccine type (Edmonston strain), "may have about twice this frequency of such responses," the PHS Advisory Committee statement said, but continued, "the great majority of reports indicate that even children with high fever experience relatively little discomfort . . . and reactions often go unnoticed by the parents.

To come closer to eradication of measles in this country, these three things must be done:

—As many pre-school children as possible must be immunized.

—Efforts should increase to immunize school children, whether there is a measles epidemic or not.

—Epidemics should not be tolerated when they start.

The CDC's Dr. Sencer sees the day when a single case of measles in the U.S. "may be sufficient to prompt an epidemic investigation." Even then it will be necessary to keep immunization levels high until measles is eradicated from the world.

Miscellaneous . . . .

National Health Forum

Your Chairman was privileged to attend, by invitation, the 1966 National Health Forum, held in New York City, May 9-11. This meeting consisted of 20 groups to consider those recommendations made at the 1965 meetings. I attended the regional meeting held in Atlanta, Georgia.

I was assigned to Group #6 which dealt with Manpower. I was most fortunate to have this assignment as it turned out that Manpower was of utmost importance. Numerous speakers, including John W. Knutson, President of the National Health Council and Marion Folsom, Chairman of the National Commission on Community Health Services, stressed the importance of the utilization of our present manpower together with our available facilities.

The entire theme was that NOW WAS THE TIME FOR ACTION.

Our group on Manpower discussed many facets which are too numerous to enumerate but I will attempt to give you some highlights.

1. Effective utilization of available health personnel will reduce the current manpower shortage.

2. Wages be made comparable to those received by people performing similar jobs in the community.

3. That priority be given to construction of extended care facilities. During the closing session on Accomplishing Community Action, Mr. William J. McNerney, President of the Blue Cross Association, did a superb job of moderating. It is impossible to name all of the recommendations but, being a family physician, I did jot down these:

1. A personal physician for every family was the most significant recommendation of the Commission.

2. Massive public education regarding use of the available personnel.

3. The American Medical Association to provide leadership.

4. Family Planning. This did not refer to numbers, as stressed in population explosion, but stressed Family Planning regarding living, recreation, and education, and accepting those health facilities that we now have.

Stress was placed on comprehensive urban planning. In this field, reference was made to such phrases as "Prettiopolis", and "Lady Urbia". Also, emphasis was made to comprehensive health services and urban planning.

There were numerous remarks made concerning the education of our patients. Doctor shopping was criticized and it was emphasized that it was the patient's responsibility to obtain a family physician to be called in all cases and then rely upon that physician to direct his patients to the proper specialist when needed.

Emphasis was stressed on proper land use, efficient zoning and the proper building codes.

The necessity of all physicians having staff privileges in each hospital in which they had patients was stressed.

One speaker said that the principles of management are the same in every field but they have to be fitted to the individual job. Learn what you do know or ask someone who does.

After listening to hours of discussion, as well as many addresses of topnotch speakers in those fields in which they are most proficient, I think the entire theme of the meeting can be summed up in the remarks of the last speaker, John S. Millis, Ph.D., President of Western Reserve University, in Cleveland, "Manpower Is the Basic Ingredient of Any Plan for Health Care". The amount of available manpower determines the amount of health services which

can be provided. The kind of manpower determines the character and quality of the service. The Medicare legislation is an example of a program being put into effect without recognizing the need for more time to provide manpower, first, and facilities, second, before service is begun. This is a task for all elements of the society, for the professions, the educational systems, the government, and the citizen.

In concluding my remarks regarding the National Health Forum, I hope that you have saved the recent AMA News and especially the May 23 issue. If you do not have this issue in your office, by all means go to your hospital or Medical Library, borrow this issue and read carefully the report of this meeting so ably reported by our most capable Editor of the AMA News, Mr. Marvin Rowlands. I had the privilege of talking with him in his suite on Tuesday night and this young man really has his pulse on American Medicine, its' implications as well as the possibilities of the future.

As my last admonition—never discard an issue of the AMA News. You can never tell just when you will have need for referring to a past issue.

JOHN WYATT DAVIS, JR., M.D.
Chairman, Public Relations Committee

Virginia Association of Medical Assistants

The Virginia Association of Medical Assistants had their Spring Seminar, May 22, at the Admiralty Motor Hotel, Norfolk, Virginia and it was outstanding both in the quality and subjects discussed as well as the attendance. This was the largest Seminar in the history of the Association there being 65 members registered.

The program began with a Breakfast Hospitality Hour from 8-9, followed by words of welcome from Mrs. Ruth Huddleston, President of the Tidewater Association of Medical Assistants.

Mrs. Donald D. Funk, Registered Parlimentarian of the National Association of Parliamentarians, gave a most informative talk entitled, "How Does Robert Rule?" Those in attendance gained much valuable information on how to conduct their meetings and the mere fact that this was included in their Seminar indicates the desire on the part of the Association to conduct their meetings "according to Hoyle".

A representative from Sears Roebuck gave an interesting and informative presentation on, "Be a Personality" with emphasis on the proper dress and attire for the individual person. This was received with great enthusiasm by the young ladies which again emphasizes their desire to make a good personal appearance before the public for us doctors.

Following a delightful luncheon, Mrs. Louise Quick, Administrative Assistant of the Public Relations Department, Chesapeake and Potomac Telephone Company gave an illustrated presentation of, "Your Voice Is You", which emphasized the proper telephone technique to be used in doctors offices handling both the usual and unusual, and the trying situations which frequently develop. The illustrations were most humorous but through the entire presentation she forcefully stressed several key approaches and in a manner which was understandable and which would be remembered.

The concluding presentation was by Mr. Sidney M. Oman, Doctor of Mortuary Science. Mr. Oman is a Past Master of Public Relations and the message which he drove home covered many important facets in a doctor's office regarding Public Relations and the handling of patients in an attempt to improve the over-all image of the doctor in the eyes of the public.

Doctors, again may I stress the importance of urging your office assistants to join the local, state, and national organizations. The dues of these three organizations total approximately $10.00 per year. I think of these organizations as a large corporation, which they actually are, with about four-

teen thousand stock holders. Up to the present time, fourteen thousand shares have been sold with a potential of about forty thousand more shares which can be purchased. I can think of no investment of $10.00 per share that will pay greater dividends to you, the doctors, in the form of increased prestige, greater efficiency in your office, and better acceptance by the public, than to enroll your assistants in these three organizations and pay their dues—which expense is TAX DEDUCTIBLE.

The annual meeting of the Virginia Association of Medical Assistants will be held at the John Marshall Hotel, Richmond, November 12 and 13. I urge you to urge your assistants to join the local, state and national organizations, attend the state meeting and, if possible, attend the national meeting in St. Louis, October 19-23.

In talking with state members, I have been impressed with the difficulty in obtaining time off to attend the state and national meetings. Having attended many state meetings and one national meeting, I am convinced that the knowledge gained by these ladies attending the state and national meetings will more than compensate them and you for the slight inconvenience that may arise from operating your office with a curtailed force for two or three days twice a year.

Let's get behind the girls in our office regarding membership and help Virginia win the Trophy for the greatest increase in membership since the 1965 National Meeting in New York City.

JOHN WYATT DAVIS, JR., M.D.
VAGP Liaison Officer to VAMA
AAMA Advisor

How to Disserve the Public

No one can deny that the provisions of the Federal Food, Drug and Cosmetic Act and its Amendments are in the public interest and promote drug safety to a degree not surpassed anywhere in the world. But it must be recognized—and this I cannot stress too strongly—that the provisions of these drastic and far reaching amendments should be administered in a scientific and flexible manner. An overly strict interpretation and application of the legal and regulatory language of the recent amendments could stifle the development and production of new drugs. To regulate the production and use of drugs by responding to pressure groups and to the whim and fancy of biased and overly critical individuals lay or scientific, would be a disservice to the public.—Joseph F. Sadusk, Jr., M.D., to American College of Physicians, New York, April 19, 1966.

Woman's Auxiliary . . . .

President—Mrs. George W. Kelly, Jr., Pulaski
President-Elect—Mrs. Ralph Landes, Danville
First Vice-President Mrs. William Reardon, Falls Church
Second Vice-President—Mrs. J. R. McGriff, Arlington
Third Vice-President—Mrs. Walter Eskridge, Parksley
Recording Secretary—Mrs. Harold Goodman, Richmond
Corresponding Secretary—Mrs. A. B. Gravatt, Kilmarnock
Treasurer—Mrs. Robert Mitchell, Falls Church
Parliamentarian—Mrs. T. N. Hunnicutt, Newport News
Historian—Mrs. W. Fred Delp, Roanoke
Publicity—Mrs. Daniel Anderson, Norfolk

No Vacation from Taxes

The experiences of the Norfolk Auxiliary with their Federal Income Taxes has been so varied that it seemed wise to share them with other auxiliaries throughout the State.

Three years ago their president obtained a Social Security number for the organization and filled out a brief form for tax exemption, listing the Social Security number and savings account that would pay dividends.

In 1965, feeling quite secure that their financial affairs with the government were in good order, the treasurer submitted their tax report on a form for tax exempt organizations.

Later that year, the treasurer was notified that the organization's tax exemption had not been established and she would have to fill out in triplicate form 1023 to qualify for Federal income tax exemption as a charitable organization.

After several months, the treasurer was asked to submit two copies of their yearbook. By this time, another fiscal year of the Norfolk Auxiliary had been completed and no tax form submitted as the status of the organization had not been established.

A few weeks ago a two-page letter from Mr. James P. Boyle, District Director, Internal Revenue Service, informed the auxiliary that they were not eligible for exemption as a charitable organization under the section 501 (c) (3) of the Internal Revenue code. As Mr. Boyle stated in his letter, "It appears that a substantial part of your operation is not in furtherance of exclusively charitable purposes. Specifically, the continuous direction of your funds to the noncharitable State and National Woman's Auxiliaries of the respective Medical Associations and by the promoting of social programs for doctors, nurses and doctors' wives, you cannot be considered as organized and operated exclusively for charitable purposes within the intendment of the statute. Moreover, your lack of a specific provision in your charter concerning the disposition of your assets upon dissolution further precludes your consideration as a charitable organization. In this latter reference, see section 1.501 (c) (3)-1(b)(4) of the Income Tax Regulations." He further advised the auxiliary that they had thirty days in which to appeal this decision or to withdraw the application on form 1023 and apply for exemption as a social welfare organization described in section 501(c)(4) of the code. Duplicate copies of form 1024 would be necessary for the application as a social welfare organization.

At this point, a file of this correspondence was sent to Mr. Robert Howard, executive secretary of The Medical Society of Virginia. After consulting with legal advisors of the Society, Mr. Howard advised that the forms 1024 in application for exemption as a social welfare organization would produce full exemption. Mr. Howard quoted his legal advisors as making the following suggestion: "We think it advisable to ascertain if it is not possible for the AMA Woman's Auxiliary to obtain an exemption for it and all of its component groups. This procedure was followed with respect to the component societies of the American Academy of General Practice." Mr. Howard promises to approach the AMA about this suggested action on their part.

In the meanwhile, the Norfolk treasurer of 1955, who had been advised at every step by local tax men, is still filling out forms! Mrs. Aubrey Shelton has been most diligent in seeking an answer to the income tax dilemma.

The purpose of recording this detailed "comedy of errors" is to help each auxiliary treasurer to understand that she must file an income tax report, that she cannot file on a tax exempt form until that tax exemption has been established with the Internal Revenue Service and that form 1024 in application for exemption as a social welfare organization described in section 501 (c) (4) of the code is the most desirable method of approach. The Norfolk story further illustrates that Mr. Robert I. Howard, Executive Secretary of The Medical Society of Virginia is ready to advise you.

Don't delay. Establish good rapport between your auxiliary and the Internal Revenue Service now.

Independence Day at Virginia Beach

Accustomed to being hostesses to their friends on any holiday in this resort city, the members of the Virginia Beach Auxiliary gave a collective effort toward hosting a Fourth of July medical meeting.

The 7th Annual Symposium of the Council of Clinical Cardiology, jointly sponsored by the American Heart Association and Tidewater Heart Association, met at the Cavalier Hotel from June 30th through July 4th.

Mrs. William T. Johnson, President of the Virginia Beach Auxiliary, started planning for this meeting during the winter months as the results plainly showed. She appointed Mrs. W. A. Dickenson as chairman of the convention activities. Mrs. Dickinson and her committee coordinated plans for the advance brochure on ladies' activities, managed a baby sitting service, and planned a luncheon for over two hundred with unique entertainment by the Virginia Beach Civic Chorus. The Chorus performed excerpts from popular musicals in costume.

This auxiliary certainly spread good will with their efforts for this meeting over a favorite holiday, especially notable since the majority of their Medical Society are not members of this Council.

Don't Eat the Daisies,

Or peonies, or fresh root of the peony dug in the spring—before July 1. After that Medicare may help you to pay for them. Under the Medicare law, whose benefits start July 1, these and many other flowers and roots listed in the *Homeopathic Pharmacopeia* qualify as approved remedies if prescribed by a doctor for a hospitalized patient. The original Medicare bill covered only drugs and biologicals listed in four standard references, the *U.S. Pharmacopeia*, the *National Formulary*, *New Drugs*, and *Accepted Dental Remedies*. But the Senate finance committee added the *Homeopathic Pharmacopeia*, a 719-page compendium of medications used by an estimated 3,000 U. S. physicians who practice homeopathy. Score of "tinctures, triturations and dilutions" not found in ordinary drug stores are listed. These range from buttercups to horseradish, garlic, rattlesnake venom, skunk cabbage, snail juice, and a concoction made from black widow spiders. (Schering Science Bulletin)

Editorial . . . .

The Donkey and the Barn



"We've done everything humanly possible . . . legislativewise. . ."

—Reprinted from the Richmond News Leader by permission of the Register and Tribune Syndicate.

A CONFERENCE for the purpose of putting Medicare into effect was held on June 15 at the White House. This differed from the Rose Garden meeting five years ago, when the ground work was laid for what has now become the reality of socialized medicine. The physicians who attended the earlier conference were advocates of nationalized medicine. They encouraged the administration to embark on the course that has brought us to our present state. The recent conference

was attended by an entirely different group. These practicing physicians will be the ones who will have the onerous job of trying to make this ill-conceived plan work. The Rose Garden members did not attend this meeting. Now that the medical Utopia they envisioned appears to be an accomplished fact, they no doubt have returned to their pink perches in the ivory towers from whence they came and we can only hope we will hear from them no more.

Three Virginia physicians attended the recent meeting and reported on the various activities. President Johnson spoke for about thirty minutes. He wore a blue shirt with a tight neckband but otherwise he seemed at ease. His talk, as anticipated, was divided into two parts. The first was an appeal to the physicians of America to make his scheme work. The second was a not-too-veiled threat to place the blame on them if it did not work. He stated the administration had made more preparation for the launching of this law than any other effort except mobilization for war. He admitted that he was aware that some people would take advantage of the great privileges that a magnanimous government was about to bestow on them but he hastened to add that these abuses could not be handled in Washington and would be the responsibility of physicians at the local level. In other words he would take the bows and the physicians would take the blame. This we must be prepared for, and as individuals and groups we must be able to explain to the public the cause and possible remedies of intolerable situations which may arise under Medicare.

At times the President became a little emotional. He paid the physicians of America an unconscious tribute when he assigned them the unattainable role of doubling the span of human life. He neglected to include the old army cliché that "The difficult we do immediately but the impossible takes a little longer." Perhaps he did not hear that during his brief sojourn in the Navy. As a postscript, the President also requested physicians to make every effort to keep hospital and medical costs at the present level. He neglected to mention, however, just how this can be done, in view of the increased minimum wages, the spiraling nursing salaries and rising costs of all materials and services required for hospital operation.

Some of his remarks were a little hard to follow. According to our informant, he quoted his mentor, the late Sam Rayburn, as saying "The American people would put more emphasis on the donkey that kicked the barn down than they would on the carpenter who built it." If the "barn" referred to is American medicine, imperfect as it

is, though the best the world has seen, the quotation is understandable and we can only hope that the role and identity of the "donkey" who seems intent on kicking it down will be remembered by the American people when they go to the polls in the future.

H. J. W.

Our Last Chance for Free Enterprise

ALL OF THE MAJOR WELFARE LEGISLATION in recent years has been passed by a margin of less than 30 votes in Congress. In November, 1964, there were 30 liberal Democratic Congressmen elected by a margin of less than three per cent. At the same time 27 conservative Republican Congressmen were elected by a margin of less than five per cent. Whoever wins the election in these 57 critical congressional districts in 1966 will determine the future of this country. The voters in these districts will decide whether or not Medicare will be escalated, contained, or repealed.

Whoever spends the largest amount of money in the most effective manner usually wins an election. The Committee of Political Education (COPE) of the AFL-CIO is well aware of these facts and is spending thousands of dollars in each of these districts. In order to counteract this, the American Medical Political Action Committee (AMPAC) must have sufficient funds to exceed the contributions of COPE. If every physician and his wife would become a sustaining member of AMPAC we can do it. This may be our last chance to save the free enterprise system. A later investment to regain our lost freedom would have to be much larger than the one today to retain freedom. If we do not make adequate financial contributions at this time, we may never have another opportunity. We must all join AMPAC and VaMPAC now.

James M. Moss, M.D.

News . . . .

Calendar of Events

Virginia Council of Health and Medical Care—Health Executives Workshop —Natural Bridge—August 17-19, 1966.

American Congress and American Academy of Physical Medicine and Rehabilitation—44th Annual Session—Sheraton-Palace Hotel, San Francisco, California—August 28-September 2, 1966.

6th Annual Charlotte Postgraduate Seminar—Presbyterian Hospital Auditorium—Charlotte, N. C.—September 21-22, 1966.

Tennessee Valley Medical Assembly—Tivoli Theatre—Chattanooga, Tennessee—September 26-27, 1966.

Pediatric Post-Graduate Conference on Pediatric Cardiology—University of Virginia School of Medicine—Charlottesville—October 6-8, 1966.

Symposium on Arthritis—Sponsored by Tidewater Chapter of the Arthritis Foundation—Lake Wright Motor Hotel—Norfolk—October 7-8, 1966.

3rd National Congress on Medical Quackery—Pick-Congress Hotel—Chicago, Illinois—October 7-8, 1966.

American College of Surgeons—Annual Clinical Congress—San Francisco, California—October 10-14, 1966.

American Cancer Society, Virginia Division—Annual Meeting—Hotel Jefferson—Richmond—October 13, 1966.

Program on Gastroenterology—University of Virginia School of Medicine—Charlottesville—October 28. (6 hours—6 guest professors)

Virginia Hospital Association—Annual Meeting—Hotel Roanoke—Roanoke—November 3-4, 1966.

International College of Surgeons, Virginia State Surgical Division—Meeting at 1:00 p.m.—Williamsburg Lodge—November 6, 1966.

The Medical Society of Virginia—Annual Meeting—Williamsburg—November 6-9, 1966.

4th Annual Kidney Symposium—Sponsored by Virginia Kidney Foundation—Richmond Academy of Medicine, Richmond—November 11, 1966.

Conference on Handicapping Conditions of Childhood—Sponsored by Virginia Council on Health and Medical Care at request of the Nemours Foundation—Charlottesville—November 16-18, 1966.

Pulmonary Problems—University of Virginia School of Medicine—Charlottesville —November 18-19, 1966. (9 hours)

AMA Clinical Convention—Las Vegas, Nevada—November 27-30, 1966.

New Members.

The following new members were received into The Medical Society of Virginia during the month of June:

Claude C. Benham, M.D., Chesapeake

Newton C. Brackett, Jr., M.D., Richmond

Herschell M. Cooke, M.D., Abingdon

Robert G. Edwards, M.D., Franklin

Jack S. Faulconer, M.D., Madison Heights

Allen A. Futral, Jr., M.D., Winchester
Margaret D. Gleason, M.D., Hampton
Robert L. Gleason, M.D., Hampton
Donald J. Kenneweg, M.D., Fredericksburg
David L. Litchfield, M.D., Richmond
James D. Massie, M.D., Orange
Henry R. Miller, M.D., Saltville
Ronaldo Schkolnik, M.D., Alexandria
David J. Skewes, M.D., Dublin
Richard W. Wingfield, M.D., Keller

State Board of Medical Examiners.

Governor Godwin has appointed the following as members of the State Board of Medical Examiners for a term of five years: Dr. A. Tyree Finch, Farmville; Dr. Earnest B. Carpenter, Richmond; and Dr. William E. Harris, Richmond. Dr. Howard O. Mott, Arlington, has been previously appointed to fill the unexpired term of Dr. H. C. Bates who has moved to Roanoke.

At the meeting of the Board in June, Dr. Joseph E. Gladstone, Exmore, was elected president.

Dr. Mason Again Honored.

Drewry Mason High School has dedicated this year's edition of "The Spartanian", their yearbook, to their namesake, Dr. Drewry Hamilton Mason of Ridgeway. He has practiced in Ridgeway since 1907 and the school was named in his honor upon his retirement from 22 years of membership on the Henry County School Board.

Dr. Fischer Retires.

Dr. Ernst Fischer, chairman of the department and professor of physiology, Medical College of Virginia, retired July 1st. He has been a member of the faculty since 1935.

Dr. Fischer has been appointed professor emeritus at the College. He has accepted a Fullbright Fellowship and will lecture at the University in Ankara, Turkey, during the academic year 1966-67.

Dr. Mohler Receives Award.

The University of Virginia's John Horsley Memorial Prize for medical research has been awarded to Dr. Daniel N. Mohler, assistant professor of internal medicine, for studies of anemia in which there is increased destruction of red blood cells.

The Horsley prize was established in 1925 by Dr. John Shelton Horsley, Richmond, and is presented every other year by a committee of the faculty for the best thesis based on research in medicine.

Dr. William M. Eagles.

Richmond, has been elected to the board of trustees of Kiwanis International. He was president of the Capital District of Kiwanis in 1962 and as such headed the clubs in Maryland, Virginia, Delaware and the District of Columbia. He is past president of the Chesterfield club.

University Receives Two Awards.

The University of Virginia has been notified that it will receive two major awards from the National Institutes of Health, one to expand and strengthen basic medical science programs in the School of Medicine and the other to establish and operate a clinical research unit in the medical center. The grant in basic medical science will provide $1,097,650 over a five-year period, with almost half available the first year.

The clinical research program will receive $558,809 during the year beginning July 1st and a total of $2,000,000 over a seven-year period. A ten-bed unit will occupy two floors of the McIntire wing. Dr. James T. Hamlin, III, who has joined the

faculty as associate professor of internal medicine, will serve as director of the new center. Dr. Kenneth R. Crispell is principal investigator for the program, and Dr. J. Edwin Wood, III, will be chairman of the advisory committee. Committee members are Drs. Guy M. Harbert, Jr., John A. Owen, Jr., Leslie E. Rudolf, William G. Thurman, and John F. Harlan, Jr.

John Randolph Hospital Staff.

At the recent meeting of the Staff of this Hospital in Hopewell, Dr. T. C. Andrew was named chief of staff; Dr. P. C. Yerby, III, assistant chief; Dr. J. D. Skaggs, secretary-treasurer; and Drs. G. F. Winks and A. T. Brickhouse, executive committee members at large.

Dr. Robert A. Jahrsdoerfer

Has joined the staff of the Department of Otolaryngology, School of Medicine, University of Virginia, as clinical instructor in otolaryngology. He was recently at the Yale University School of Medicine and a member of the staff of the Yale-New Haven Hospital.

Association Wanted.

Board eligible internist (Boards in October) desires association with group or physician of similar training or experience in Northern Virginia area or Washington, D. C. Write #110, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 22321. (*Adv.*)

Desires Location.

Physician and surgeon, F.A.C.S., desires surgical location or assistant to surgeon, or emergency room and in-patient care. Write #120, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries . . .

Dr. Benjamin Watkins Rawles, Jr.,

Richmond, died June 30th, of leukemia. He was sixty years of age and a graduate of the University of Virginia in 1930. Dr. Rawles had practiced in Richmond since 1937. He was chief of staff of the Richmond Memorial Hospital in 1959 and 1960 and chief of surgery in 1958 and 1959. He was chief surgeon of the Richmond, Fredericksburg and Potomac Railroad and the Atlantic Coast Line Railroad.

During World War II, Dr. Rawles served with the 45th General Hospital and after two and a half years of duty in North Africa and Italy, he was awarded the Bronze Star Medal for outstanding service and meritorious achievement. Following four years of active duty, he was appointed a civilian consultant to the Secretary of War under the Armed Services Medical Consultant Program.

Dr. Rawles was a former president of the Richmond Academy of Medicine, the Southern Surgeons Club, the Virginia Unit of the American Cancer Society, the Virginia Surgical Association, the Medical Alumni Association of the University of Virginia, the Richmond Surgical Society, and the Excelsior Surgical Society. He had been an active member of The Medical Society of Virginia for thirty-six years, having served as a member of the Council

and on many committees. At the time of his death, he was a member of the Finance Committee and the Blue Shield Directors. He was a member of the board of Blue Shield Plan for Surgical Care, and a vice-president of the Southern Surgical Association.

Dr. Rawles is survived by his wife, a daughter, and a step-son.

Dr. Alfred Bryson Greiner,

Rural Retreat, died June 17th, at the age of ninety-one, after a brief illness. He was a graduate of the Medical Society of Virginia in 1897 and had practiced medicine for almost sixty years in Rural Retreat. Dr. Greiner was a noted civic leader and devoted his time and talents to every project that was for the benefit of his area of the State. He was a former member of the Board of Directors of the Chamber of Commerce. Dr. Greiner was a treasurer of the Lutheran Synod of Virginia and its predecessor bodies for nearly 50 years. He had served for fifty-two years as teacher of the Men's Bible Class.

Dr. Greiner had been a member of The Medical Society of Virginia for sixty-nine years.

Three sons and a daughter survive him.

Dr. Lawson Otwood Powell,

Seaford, died June 12th following a long illness. He was 90 years of age and a graduate of the Maryland Medical College in 1903. Dr. Powell had been practicing in the vicinity of Seaford for sixty-three years and had been the only doctor at Seaford since 1918. He served as York County coroner for forty years and served on the pension board of the Kecoughtan Veterans Administration Hospital for eight years and recently received a citation from President Johnson for his services during World War I in the Veterans Administration. Dr. Powell was a charter member of the Yorktown Masonic Lodge, and a member of the Order of Eastern Star. In 1956 he was the recipient of the Woodmen of the World Outstanding Citizen Award.

Dr. Powell had been a member of The Medical Society of Virginia for sixty-one years.

His wife and two sons survive him.

Dr. Euclid Forrest Neal,

Danville, died June 4th, having been in ill health for several years. He was sixty-six years of age and a graduate of the Medical College of Virginia in 1928. He practiced in Altavista for seven years before locating in Danville. Dr. Neal had been a member of The Medical Society of Virginia for twenty-one years.

His wife and two daughters survive him.

Dr. John Langdon Moss,

Richmond, died June 15th, at the age of fifty. He received his medical degree from the University of Virginia in 1943 and began his practice in Louisa. Dr. Moss moved to Richmond in 1949. He served in the Navy and was in the Pacific taking part in the Okinawa campaign during World War II. He had been a member of The Medical Society of Virginia for twenty years.

His wife, two sons and two daughters survive him.

Dr. Benjamin Thomas Painter,

Williamsburg, died June 26th at the age of fifty-seven. He graduated from the Medical College of Virginia in 1945 and served as a captain in the air force from 1946 to 1948. Dr. Painter was a past president of the Williamsburg-James City Medical Society and has been a member of The Medical Society of Virginia for seventeen years.

Two sisters survive.

Dr. Alton Edmund Feller,

Charlottesville, died July 5th. He was fifty-six years of age and received his medical degree from the University of Iowa in 1933. Dr. Feller was associate dean of the University of Virginia Medical School. He joined the staff in 1951 and served as professor and chairman of microbiology and professor of internal medicine, as well as assistant dean of medicine. Dr. Feller was forced to resign his chairmanship last year because of ill health but continued student counseling. He was made the first associate dean of the medical school and this appointment was effective July 1st. During World War II he was a pioneer worker in virus infections as a member of the Army's Commission on Acute Respiratory Diseases, and later served as director of the Commission from 1955 to 1959.

Dr. Feller was a member of The Medical Society of Virginia, having joined in 1952.

His wife, a daughter and two sons survive him.

Dr. Oast.

Dr. John Wendell Oast, III died March 9, 1966 after a prolonged illness. He was born in Norfolk, January 29, 1917 and was educated in the Norfolk Public Schools and VMI. He graduated from the University of Virginia School of Medicine in 1942. Following this he interned at the Episcopal Hospital in Philadelphia. During World War II he served as Battalion surgeon with the rank of Major with the 88th Infantry Division in Italy and was awarded the Bronze Star for valor in action. After discharge from the Army he served a residency in internal medicine at DePaul Hospital from 1946-1948. Upon completion of his residency he entered private practice which he was forced to discontinue in 1964 because of ill health.

He was a member of the attending staff of DePaul Hospital, visiting staff of Norfolk General Hospital and an associate of the American College of Physicians. He was a member of Christ and St. Luke's Episcopal Church. He is survived by his widow, two sons and two daughters.

WHEREAS, Dr. Oast was loved by his professional associates, friends and patients and will long be remembered for his kindness and generosity.

BE IT RESOLVED, that members of the Norfolk County Medical Society extend their sympathy to his family.

BE IT FURTHER RESOLVED, that a copy of this resolution be spread on the minutes of the Society and a copy sent to his widow.

JOHN FRANKLIN, M.D.
W. WICKHAM TAYLOR, M.D.
JOHN R. KIGHT, M.D.

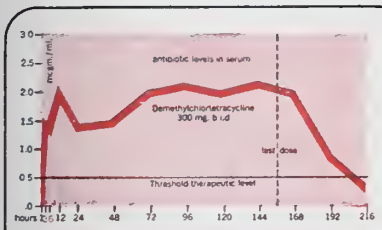


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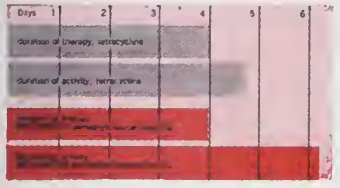
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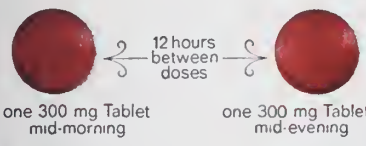
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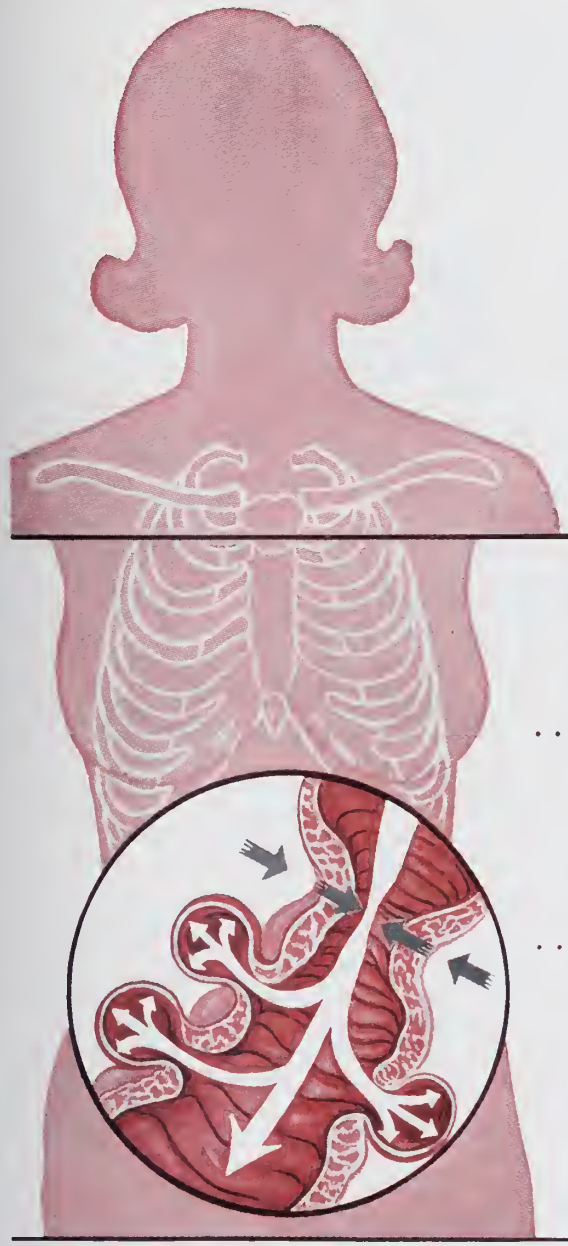
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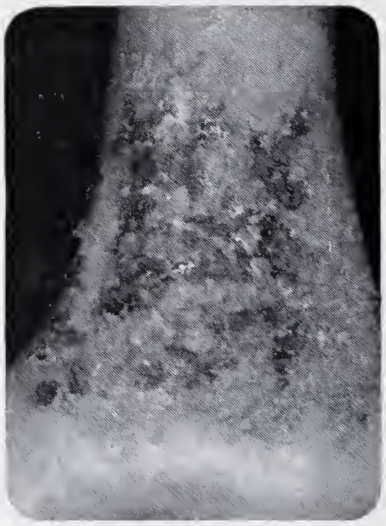
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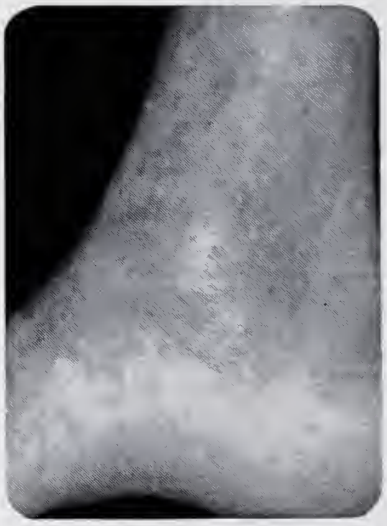
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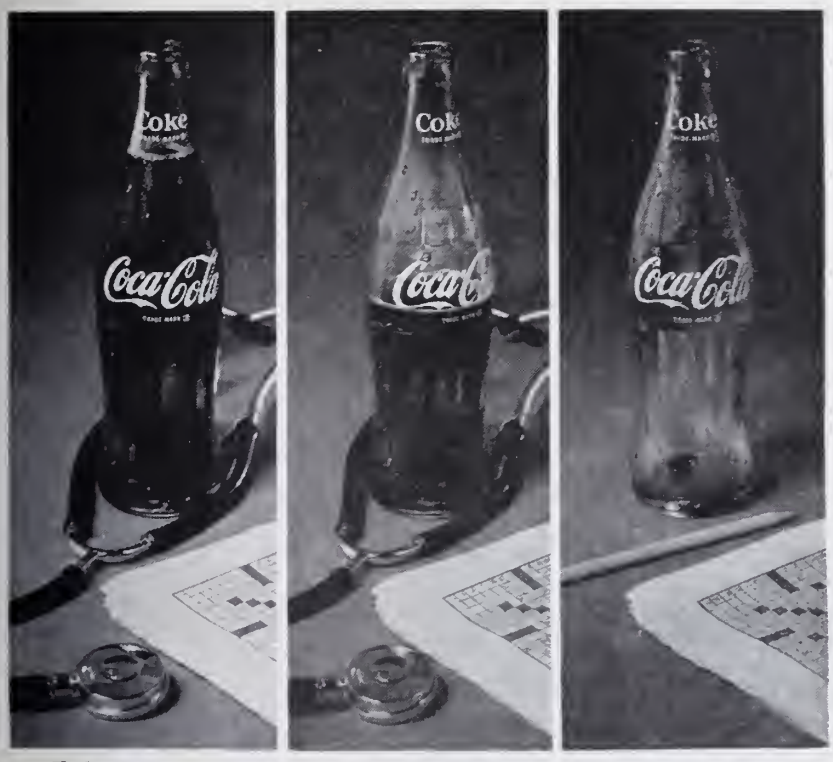
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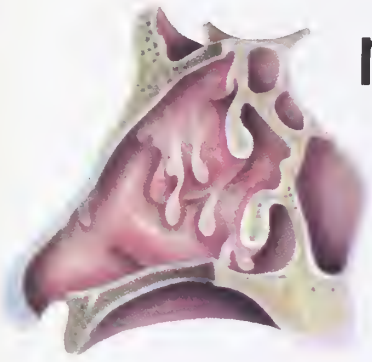
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this issue: emergency anesthesia and the common cold

When emergency anesthesia is complicated by the common cold

Barry Belonsky, M.D., F.A.C.A.
Staff Anesthesiologist, Hospital of The Albert Einstein College of Medicine, New York City



Medical facilities are often presented with unfamiliar patients who have unknown health histories. This is particularly true in emergency situations that arise due to accidents or acute illnesses. These cases may need prompt care requiring anesthesia, and if they involve colds, nasal allergies or other upper respiratory infections, can account for many complications which make up a major hazard during emergency anesthesia.

Administration of general anesthesia to a patient with a cold or upper respiratory infection is a hazardous undertaking. It should be avoided if at all possible. Indeed, the presence of U.R.I. is good reason for postponement of elective surgery.[1] In emergency surgery, regional or local block should be considered, but if general anesthesia is mandatory, it should be approached with utmost caution.

Since the attitude of "emergency surgery — hurry" has been replaced by "emergency surgery — watch out",[2] a knowledge of the complications is a great help in preventing them. Here is a brief outline of the problems involved and their treatment. Prevention of the complications is discussed later.

Complications during the induction of anesthesia

Most of the complications are a direct result of secretions and some a result of accompanying secondary infection. For example, *airway obstruction* due to excessive secretions occurs very commonly and is the direct effect of the cold. Respiratory exchange may be obstructed at any time during anesthesia because of excessive secretions, but is most likely to occur during induction. Suction apparatus must be available to overcome this.[3]

Excess secretions which stimulate and irritate the epiglottis and vocal chords can cause *laryngeal stridor and obstruction*. This can lead to complete laryngeal closure with resultant anoxia and death.

Bronchospasm and laryngospasm can result from secretions penetrating the bronchi and bronchioles. In laryngospasm, there are both inspiratory and expiratory stridor and difficulty in inflating the chest; in bronchospasm there is an expiratory wheeze, but not as much difficulty in inflation, although some resistance may be felt. Stridor is due to partial or complete closure of the vocal cords in spasm and the "crowing" sound is almost pathognomonic.

Secretions obstruct the nasal airways. This produces *difficulty in ventilation* through the mouth until the patient is deep enough to place an oral airway. An intravenous agent can be given to facilitate the induction of anesthesia.

Difficulties can arise if intubation is performed to ventilate the patient. For example, teeth can be broken by too vigorous attempts at intubation, or the intubation itself may be technically difficult due to secretions obstructing the view of the glottis. The postoperative sequelae of intubation ranges from mild laryngitis to pneumonia with atelectasis, and are seen far more commonly in patients suffering from colds than in normal patients.



Successive stages of laryngospasm which produce the characteristic stridor or "crowing" sound.



Progression of bronchioles into bronchospasm.

Complications during the maintenance of anesthesia *Bronchospasm* can occur in an unintubated patient due to secretions entering the bronchial tree from above, and acting as an irritant to the bronchi and bronchioles. Secretions accumulate quickly and the patient has to be suctioned continually. The whole cycle of coughing, bucking, laryngospasm and bronchospasm may ensue. The difficult decision here is whether it is better to suction the patient continually or to use an endotracheal tube which protects the cords and bronchi but introduces the risk of attendant complications.

Postoperative complications Postoperatively, complications can be more serious than even the intra-anesthesia complications, and occur much more frequently in a patient who has been intubated.[4]

Sore throat and pharyngitis can result both from the preoperative upper respiratory infection and from the drying of the mucous membranes which occurs during anesthesia.

Tracheitis and bronchitis often result from secretions trickling down the tracheobronchial tree.

Laryngitis is frequently seen in patients with upper respiratory infections who have been intubated. There is a significant increase in the incidence of laryngitis compared to that in patients without upper respiratory infections.

Subglottic edema is a condition which occurs mainly in children who have been intubated. This pathology results from an exudate developing in the areolar tissue just below the cords. Because of the small size of the child's trachea, even a 1 mm increase in size of the mucous membrane can severely impair the air passage. Children exhibit this by severe expiratory stridor and may even become cyanotic. This may so severely embarrass the child's breathing that it must be treated vigorously. Most authorities agree on the treatment[5,6,7,8] consisting of a high oxygen concentration in the inspired air (60%), plus high humidity (close to 100%). Adequate parenteral fluid intake and slight cooling of the body temperature (by a cooled oxygen tent) also help in mild cases. In severe cases, there may be hypoxia which increases the restlessness and the oxygen demand rises. Sedation is often necessary, although concomitant depression of the respiratory center is undesirable. An antihistaminic accomplishes this purpose well, and adds sedation. Since there is always a possibility that an allergic response plays a role in edema, some relief of the respiratory distress may occur. Steroids should be used to control inflammatory and allergic phenomena and swelling. If all this fails, and the patient is still restless and hypoxic, a tracheostomy should be performed immediately.

(concluded on following page)



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Cross section of trachea showing subglottic edema and lumen reduction due to mucous membrane congestion.

Pneumonia may also follow anesthesia administered to a patient with a cold. This can be caused by accumulated secretions becoming secondarily infected and causing consolidation of the lung. *Atelectasis* of the lung can result if one of the bronchioles becomes plugged by secretions, preventing aeration of the distal part of that lung. This is seen more frequently following upper respiratory infection because dry anesthetic gases aggravate the infection, causing secretions to change from watery to thick and viscid, and consequently difficult to suction.

Prevention of complications The first rule to prevent complications, of course, is to use a regional or local anesthesia whenever possible. But when emergency surgery is a must, in spite of the presence of a cold, allergy, or upper respiratory infection, here are some ways to prevent complications.

Give nose drops preoperatively. This can help shrink the congested nasal mucous membranes and reduce secretions for better air passage. (Results of this method are sometimes unsatisfactory because of the short duration of effect or rebound congestion.) For longer effect, oral antihistamines with nasal decongestants are often given to provide and maintain a drying effect on secretions.

To clear the tracheobronchial tree, instruct the patient to cough preoperatively. Cold steam or water nebulizers effectively humidify the nasal, pharyngeal and bronchial passages and often make the patient more comfortable. Tenacious secretions become more watery under humidification, clear more thoroughly preoperatively and are more easily suctioned from the airway during anesthesia.

Give intravenous fluids to those patients who appear dehydrated due to a cold. In a well hydrated patient the respiratory tract secretions are less viscid and more watery. This is particularly true in asthmatics.

Summary: Administration of emergency anesthesia to a patient with a cold or upper respiratory infection can lead to a chain of events that may result in increased postoperative morbidity and even death. This is because of the excess secretions formed in these conditions. Preoperative measures to prevent or reduce these secretions should be undertaken and will result in smoother and safer anesthesia.

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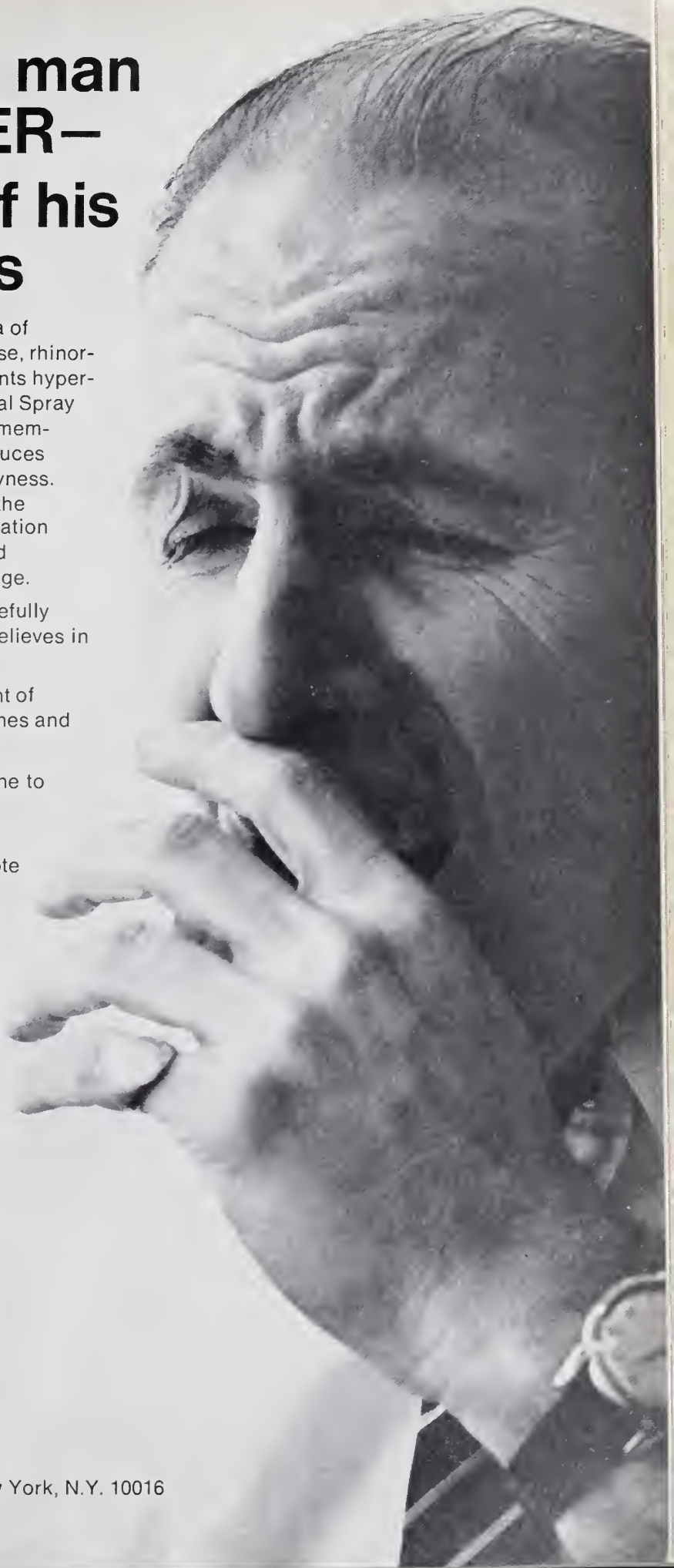
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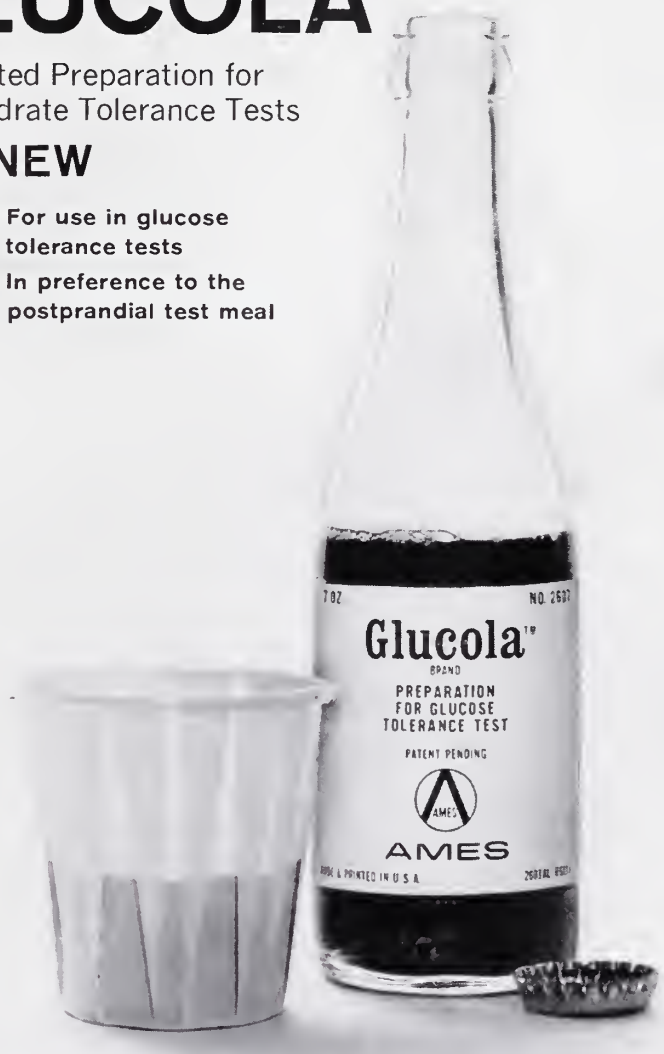
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- **For use in glucose tolerance tests**
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A NEW SOLUTION FOR AN OLD PROBLEM

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A 7-ounce bottle of GLUCOLA provides a liquid oral loading dose equivalent to 75 Gm. of glucose* for carbohydrate tolerance testing. GLUCOLA avoids the nausea that frequently results from lingering sweet laboratory preparations, and the occasional emesis that necessitates rescheduling the test. With GLUCOLA, no time is lost weighing and mixing glucose "cocktails"—only a bottle opener is needed.

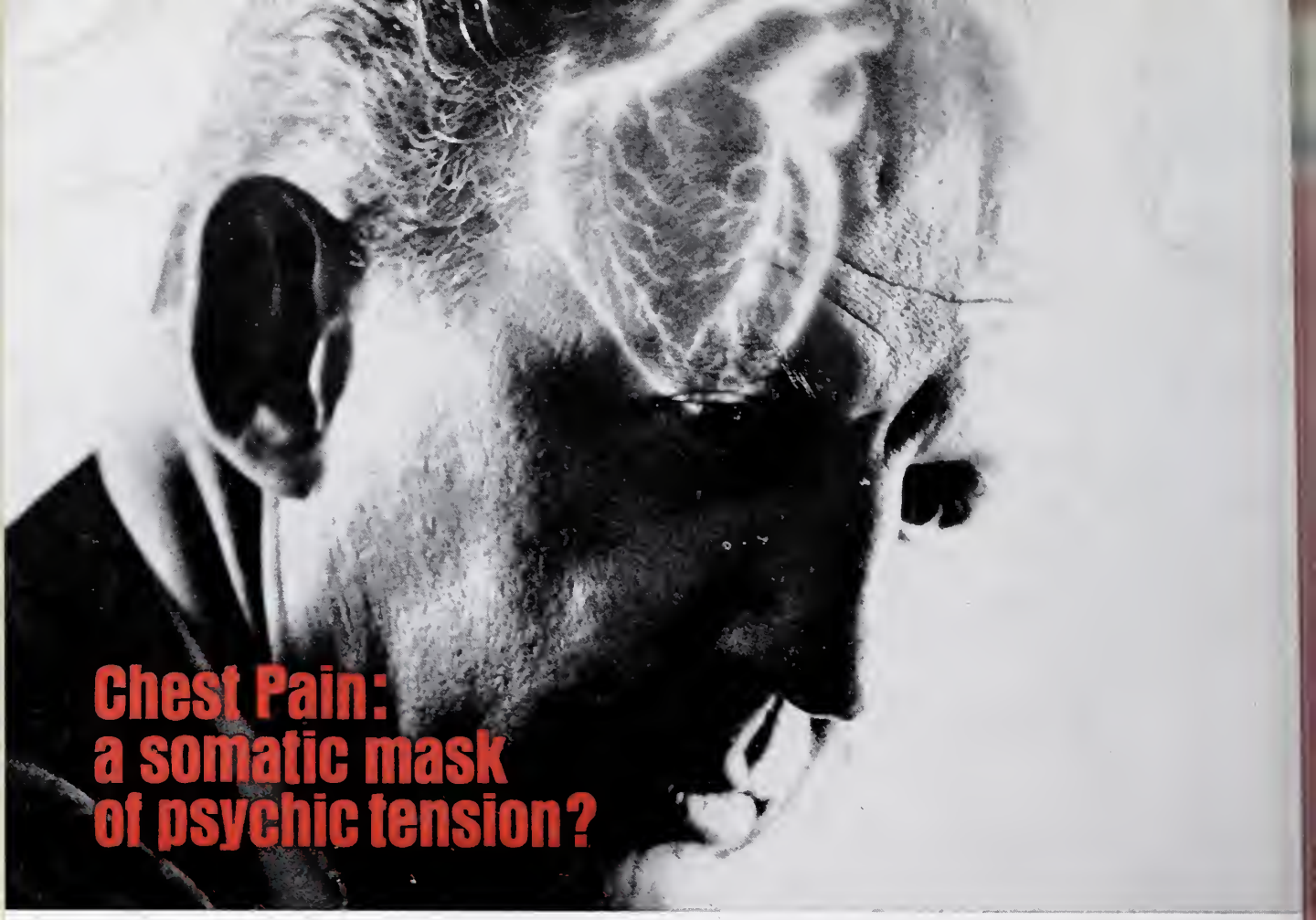
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*The rapidly hydrolyzable saccharides in this formulation assure optimum absorption and glucose levels comparable to those obtained with a 100 Gm. loading dose.

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Ames Company, Inc.
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AMES



Chest Pain: a somatic mask of psychic tension?

"Heart symptoms"—chest pain, tachycardia, arrhythmia—invariably alarm and preoccupy the patient, though they may be completely without organic basis. Such symptoms often are somatic masks of psychic tension, arising from constant encounters with stressful situations.

When the problem is diagnosed as emotionally produced, consider Valium (diazepam) as adjunctive therapy. Valium (diazepam) acts rapidly to calm the patient, to reduce his psychic tension and relieve associated cardiovascular complaints.

NEUROTIC FATIGUE—the chronic tiredness resulting from emotional strain which so often accompanies psychogenic "heart" symptoms—also can be alleviated by this highly useful agent. Valium (diazepam) often achieves results where other psychotherapeutic agents have failed.

Valium (diazepam) is generally well tolerated, and usually does not impair mental acuity or ability to function. If side effects such as ataxia and drowsiness occur, they usually disappear with dosage adjustment.

Contraindications: Infants, patients with history of convulsive disorders or glaucoma.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazardous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances and hallucinations) and changes in EEG patterns. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

Dosage — Adults: Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hrs, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. Geriatric patients: 1 or 2 mg/day initially, increase gradually as needed.

Supplied: Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 for convenience and economy in prescribing.

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for somatic symptoms of psychic tension

2-mg, 5-mg, 10-mg tablets

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(diazepam)

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VIRGINIA MEDICAL MONTHLY

THE FRANCIS A. COUNTWAY
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SEPTEMBER, 1966

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

a sea of trouble for pollen-sensitive patients



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for control of allergic distress

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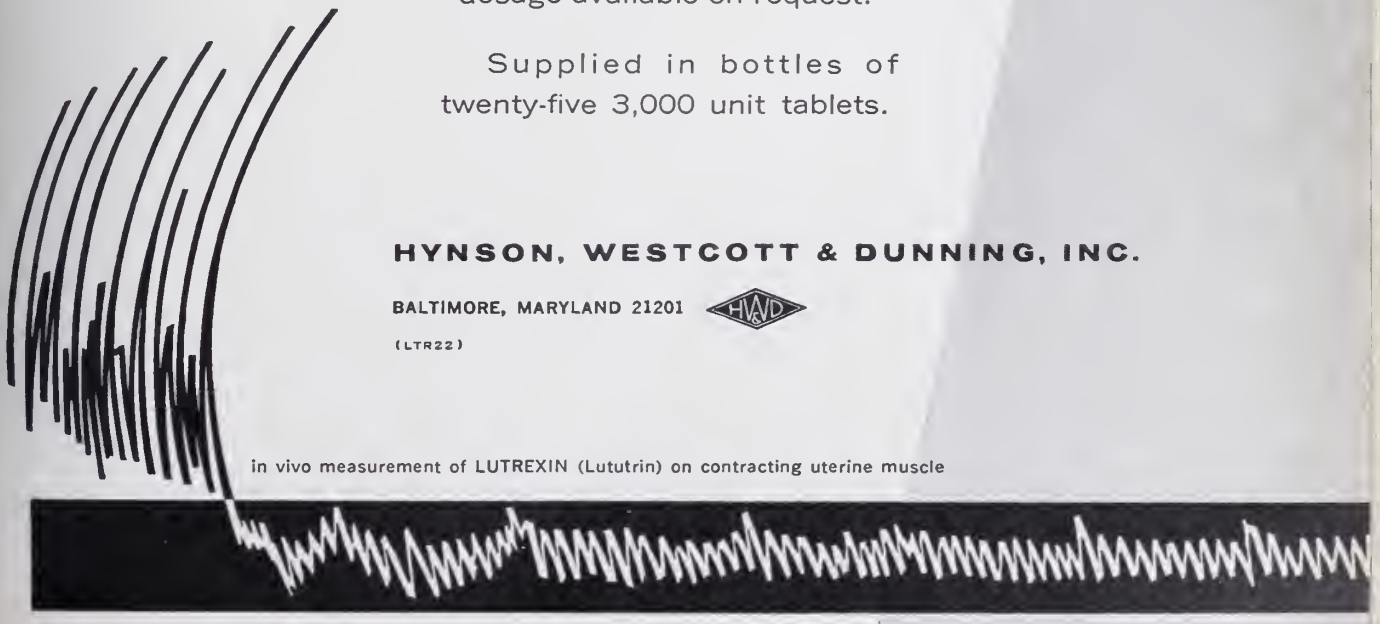
Literature on indications and dosage available on request.

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For peptic ulcer, gastric hyperacidity, gastritis

Each WinGel tablet or teaspoon (5 ml.) contains 410 mg. of combined, highly reactive, short polymer, aluminum and magnesium hydroxides **stabilized with hexitol.**

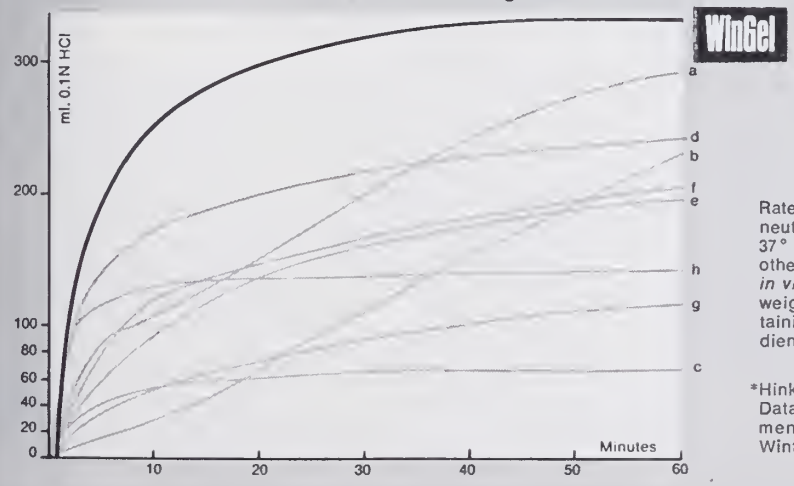
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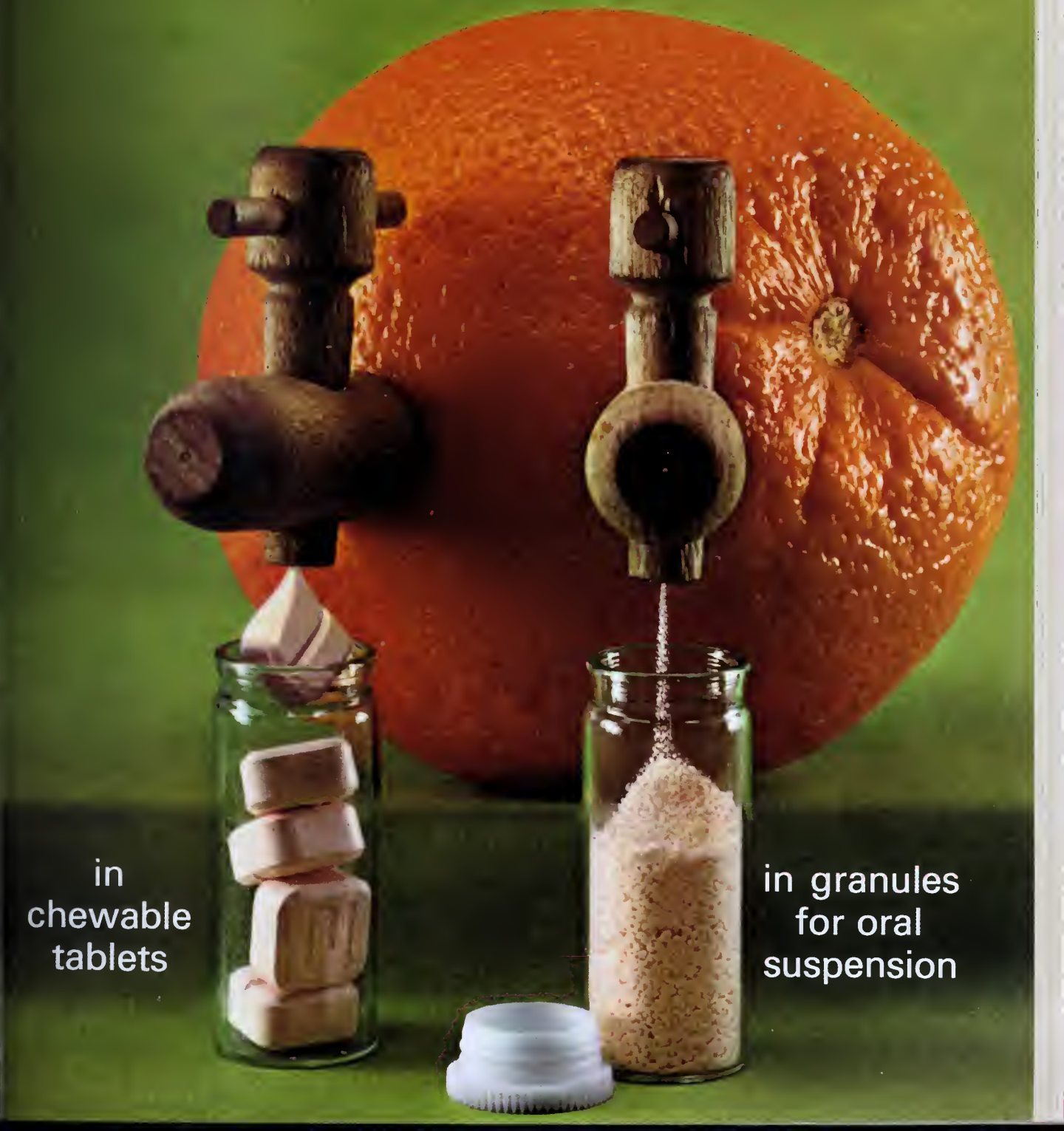
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ERYTHROMYCIN ETHYL SUCCINATE–TRISULFAPYRIMIDINES

In Chewable Tablets
In Granules for Oral Suspension



ERYTHROCIN®-SULFAS

Brief Summary

Indications: Use Erythrocin-Sulfas in infections more susceptible to the combination than to either agent alone. These are usually found in urinary, lower respiratory tract, and chronic ear infections.

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or new born infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions: Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

If a reaction or overgrowth of nonsusceptible organisms occurs, withdraw the drug.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. each of sulfadiazine, sulfamerazine and sulfamethazine. 603303

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DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

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"The main function of the carotid sinus is regulation of the blood pressure...."[1]

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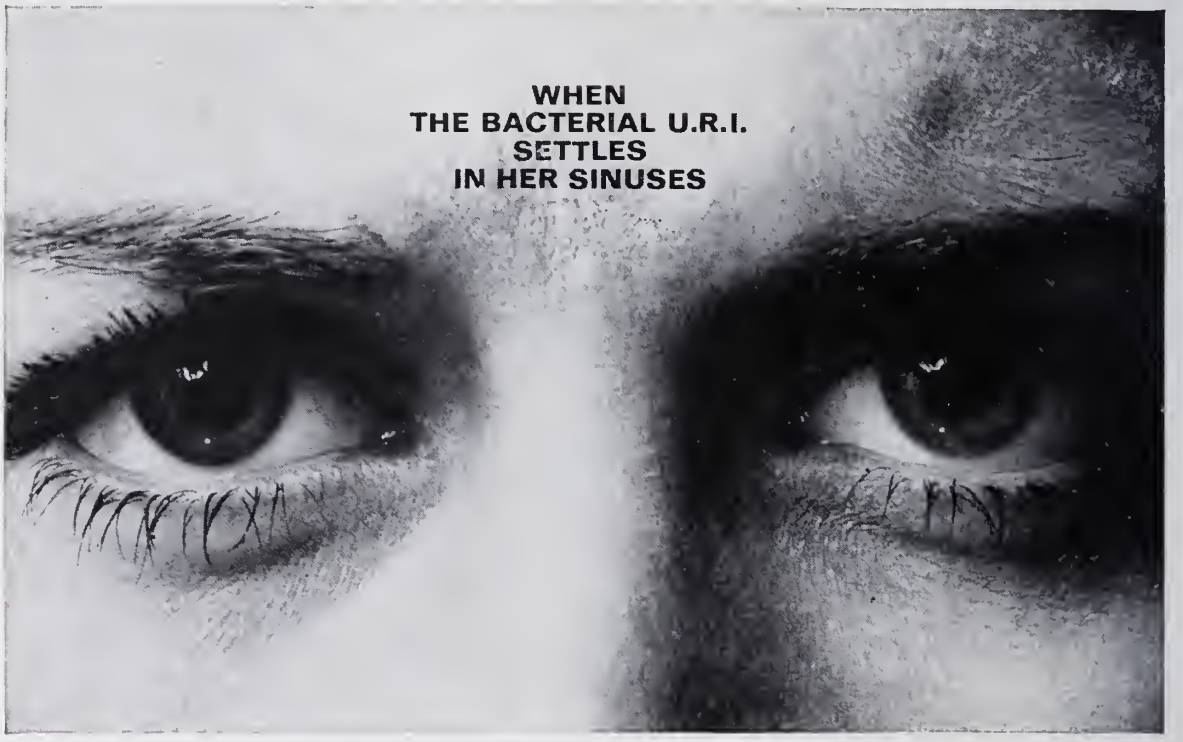
References: 1. Editorial: JAMA *191*:592 (Feb. 15) 1965. 2. Meilman, E., in Moyer, J.H.: Hypertension, Philadelphia, W.B. Saunders Company, 1959, p. 395.

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For complete information consult Official Package Circular.
Indications: Essential hypertension.
Warnings: Small-bowel lesions (obstruction, hemorrhage, perforation) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs.
Contraindications: Salutensin is contraindicated in severe depression.
Precautions: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss, which may cause digitalis intoxication, responds to potassium-rich foods, potassium chloride or, if necessary, stopping therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy two weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution with patients with peptic ulcers or renal insufficiency (if severe, Salutensin is contraindicated).
Side Effects: Hydroflumethiazide: Purpura plus or minus thrombocytopenia, hyperuricemia, leukopenia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. *Reserpine:* Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth and, with overdosage, agitation, insomnia and nightmares. *Protoveratrine A:* Nausea, vomiting, cardiac arrhythmia, prostration, excessive hypotension and bradycardia. (Treat bradycardia with atropine and hypotension with vasopressors.)
Usual Dose: 1 tablet *b.i.d.*

BRISTOL LABORATORIES
Division of Bristol-Myers Co.
Syracuse, New York

Salutensin®

Each tablet contains: protoveratrine A, 0.2 mg.; hydroflumethiazide, 50 mg.; reserpine, 0.125 mg.



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Tetracycline HCl-Antihistamine-Analgesic Compound

Each tablet contains:

ACHROMYCIN® Tetracycline HCl	125 mg
Phenacetin	120 mg
Caffeine	30 mg
Salicylamide	150 mg
Chlorothen Citrate	25 mg

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Effective in controlling complicating tetracycline-sensitive bacterial infection and providing symptomatic relief in allergic diseases of the upper respiratory tract.

Contraindication—History of hypersensitivity to tetracycline.

Warning—If renal impairment exists, even usual doses may lead to liver toxicity. Under such conditions, lower than usual doses are indicated and if therapy is prolonged, tetracycline serum level determination may be advisable. Hypersensitive individuals may develop a photodynamic reaction to natural or artificial sunlight during use. Individuals with a history of photosensitivity reactions should avoid direct exposure while under treatment and treatment should be discontinued at first evidence of skin discomfort.

Precautions—Some individuals may experience drowsiness, anorexia, and slight gastric distress. If excessive drowsiness occurs, it may be necessary to increase the interval between doses. Persons on full dosage should not operate any vehicle. Use may result in overgrowth of nonsusceptible organisms. If infections appear during therapy, appropriate measures should be taken. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Infections caused by beta-hemolytic streptococci should be treated for at least 10 full days to help prevent rheumatic fever or acute glomerulonephritis. Use of tetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect has been observed in usual short treatment courses.

Average adult dosage: 2 tablets four times daily, given at least one hour before, or two hours after meals.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

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Anatomy of
Low Back Pain #1



the sedentary life is often the seat of low back pain

The human spine is not engineered f prolonged sitting at desks, pianos, typ writers and drafting boards. The stresse set up by the heavy, forward-tilted hea and trunk, balanced precariously on a insufficient base, result in strain of th dorsal musculature, particularly at th low lumbar level.

The unusual muscle-relaxant and ana gesic properties of 'Soma' make it esp cially useful in the treatment of low bac sprains and strains. 'Soma' is wide prescribed ☐ **to relieve pain** ☐ **to rela muscles** ☐ **to restore mobility.**

Indications: 'Soma' is useful for management muscle spasm, pain, and stiffness in a variety inflammatory, traumatic, and degenerative musc loskeletal conditions. It also may act to normali motor activity in certain neurologic disturbance

Contraindications: Allergic or idiosyncratic rea tions to carisoprodol.

Precautions: 'Soma', like other central nervo system depressants, should be used with cautic in patients with known propensity for taking e cessive quantities of drugs and in patients wi known sensitivity to compounds of similar chem cal structure, e.g., meprobamate.

Side Effects: The only side effect reported with a frequency is sleepiness, usually on higher tha recommended doses. An occasional patient m not tolerate carisoprodol because of an individu reaction, such as a sensation of weakness. Oth rarely observed reactions have included dizzines ataxia, tremor, agitation, irritability, headache, i crease in eosinophil count, flushing of face, a gastrointestinal symptoms.

One instance each of pancytopenia and leuk penia, occurring when carisoprodol was admi istered with other drugs, has been reported, as h an instance of fixed drug eruption with carisoprod and subsequent cross reaction to meprobamat Rare allergic reactions, usually mild, have include one case each of anaphylactoid reaction with mi shock and angioneurotic edema with respirato difficulty, both reversed with appropriate therap In cases of allergic or hypersensitivity reaction carisoprodol should be discontinued and approp ate therapy initiated. Suicidal attempts may pr duce coma and/or mild shock and respirato depression.

Dosage: Usual adult dose is one 350 mg. tabl three times daily and at bedtime.

Supplied: Two Strengths: 350 mg. white table and 250 mg. orange, two-piece capsules.

Before prescribing, consult package circular.

for the relief of low back sprains and strain

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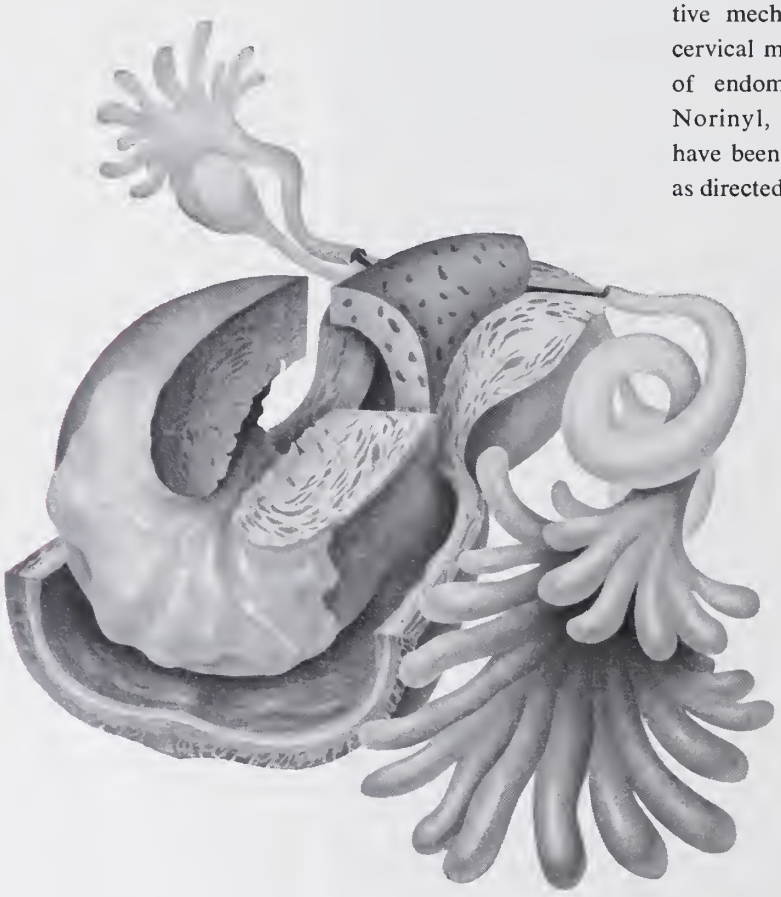
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no unplanned pregnancies

Norinyl provides multiple action for maximum assurance of success. It does not depend on ovulation inhibition alone for contraceptive effectiveness. The mechanism of action of combined hormonal therapy results in ovulation inhibition reinforced by other protective mechanisms, including a hostile cervical mucus[1-13] and an acceleration of endometrial changes.[1-3,7-16] With Norinyl, no unplanned pregnancies have been reported to date when used as directed.

plus important supportive benefits that help her through those critical early months of oral contraception

low incidence of side effects

Low incidence of BTB and spotting, nausea and amenorrhea tends to minimize side effect problems and increases patient cooperation.

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An unbreakable "confusionproof" package makes it easy to adhere to prescribed dosage schedule: individually sealed tablets numbered from 1 through 20 *plus* monthly calendar record enables patient to double-check dosage intake by day and corresponding tablet number.



Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.

Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs: JAMA 187:664 (Feb. 29) 1964. 2. Bryans, F. E.: Canad. Med. Ass. J. 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med. Clin. N. Amer. 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med. Sci. 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil. Steril. 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil. Steril. 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N. Carolina Med. J. 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl. Ther. 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl. Ther. 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med. Sci. 16:26 (Nov.) 1965.

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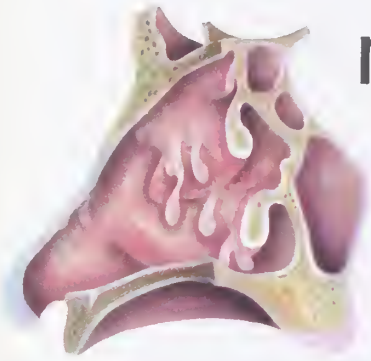
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this issue: emergency anesthesia and the common cold

When emergency anesthesia is complicated by the common cold

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Medical facilities are often presented with unfamiliar patients who have unknown health histories. This is particularly true in emergency situations that arise due to accidents or acute illnesses. These cases may need prompt care requiring anesthesia, and if they involve colds, nasal allergies or other upper respiratory infections, can account for many complications which make up a major hazard during emergency anesthesia.

Administration of general anesthesia to a patient with a cold or upper respiratory infection is a hazardous undertaking. It should be avoided if at all possible. Indeed, the presence of U.R.I. is good reason for postponement of elective surgery.[1] In emergency surgery, regional or local block should be considered, but if general anesthesia is mandatory, it should be approached with utmost caution.

Since the attitude of "emergency surgery — hurry" has been replaced by "emergency surgery — watch out",[2] a knowledge of the complications is a great help in preventing them. Here is a brief outline of the problems involved and their treatment. Prevention of the complications is discussed later.

Complications during the induction of anesthesia

Most of the complications are a direct result of secretions and some a result of accompanying secondary infection. For example, *airway obstruction* due to excessive secretions occurs very commonly and is the direct effect of the cold. Respiratory exchange may be obstructed at any time during anesthesia because of excessive secretions, but is most likely to occur during induction. Suction apparatus must be available to overcome this.[3]

Excess secretions which stimulate and irritate the epiglottis and vocal chords can cause *laryngeal stridor and obstruction*. This can lead to complete laryngeal closure with resultant anoxia and death.

Bronchospasm and laryngospasm can result from secretions penetrating the bronchi and bronchioles. In laryngospasm, there are both inspiratory and expiratory stridor and difficulty in inflating the chest; in bronchospasm there is an expiratory wheeze, but not as much difficulty in inflation, although some resistance may be felt. Stridor is due to partial or complete closure of the vocal cords in spasm and the "crowing" sound is almost pathognomonic.

Secretions obstruct the nasal airways. This produces *difficulty in ventilation* through the mouth until the patient is deep enough to place an oral airway. An intravenous agent can be given to facilitate the induction of anesthesia.

Difficulties can arise if intubation is performed to ventilate the patient. For example, teeth can be broken by too vigorous attempts at intubation, or the intubation itself may be technically difficult due to secretions obstructing the view of the glottis. The postoperative sequelae of intubation ranges from mild laryngitis to pneumonia with atelectasis, and are seen far more commonly in patients suffering from colds than in normal patients.



Successive stages of laryngospasm which produce the characteristic stridor or "crowing" sound.



Progression of bronchioles into bronchospasm.

Complications during the maintenance of anesthesia *Bronchospasm* can occur in an unintubated patient due to secretions entering the bronchial tree from above, and acting as an irritant to the bronchi and bronchioles. Secretions accumulate quickly and the patient has to be suctioned continually. The whole cycle of coughing, bucking, laryngospasm and bronchospasm may ensue. The difficult decision here is whether it is better to suction the patient continually or to use an endotracheal tube which protects the cords and bronchi but introduces the risk of attendant complications.

Postoperative complications Postoperatively, complications can be more serious than even the intra-anesthesia complications, and occur much more frequently in a patient who has been intubated.[4]

Sore throat and pharyngitis can result both from the preoperative upper respiratory infection and from the drying of the mucous membranes which occurs during anesthesia.

Tracheitis and bronchitis often result from secretions trickling down the tracheobronchial tree.

Laryngitis is frequently seen in patients with upper respiratory infections who have been intubated. There is a significant increase in the incidence of laryngitis compared to that in patients without upper respiratory infections.

Subglottic edema is a condition which occurs mainly in children who have been intubated. This pathology results from an exudate developing in the areolar tissue just below the cords. Because of the small size of the child's trachea, even a 1 mm increase in size of the mucous membrane can severely impair the air passage. Children exhibit this by severe expiratory stridor and may even become cyanotic. This may so severely embarrass the child's breathing that it must be treated vigorously. Most authorities agree on the treatment[5,6,7,8] consisting of a high oxygen concentration in the inspired air (60%), plus high humidity (close to 100%). Adequate parenteral fluid intake and slight cooling of the body temperature (by a cooled oxygen tent) also help in mild cases. In severe cases, there may be hypoxia which increases the restlessness and the oxygen demand rises. Sedation is often necessary, although concomitant depression of the respiratory center is undesirable. An antihistaminic accomplishes this purpose well, and adds sedation. Since there is always a possibility that an allergic response plays a role in edema, some relief of the respiratory distress may occur. Steroids should be used to control inflammatory and allergic phenomena and swelling. If all this fails, and the patient is still restless and hypoxic, a tracheostomy should be performed immediately.

(concluded on following page)



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Cross section of trachea showing subglottic edema and lumen reduction due to mucous membrane congestion.

Pneumonia may also follow anesthesia administered to a patient with a cold. This can be caused by accumulated secretions becoming secondarily infected and causing consolidation of the lung. *Atelectasis* of the lung can result if one of the bronchioles becomes plugged by secretions, preventing aeration of the distal part of that lung. This is seen more frequently following upper respiratory infection because dry anesthetic gases aggravate the infection, causing secretions to change from watery to thick and viscid, and consequently difficult to suction.

Prevention of complications The first rule to prevent complications, of course, is to use a regional or local anesthesia whenever possible. But when emergency surgery is a must, in spite of the presence of a cold, allergy, or upper respiratory infection, here are some ways to prevent complications.

Give nose drops preoperatively. This can help shrink the congested nasal mucous membranes and reduce secretions for better air passage. (Results of this method are sometimes unsatisfactory because of the short duration of effect or rebound congestion.) For longer effect, oral antihistamines with nasal decongestants are often given to provide and maintain a drying effect on secretions.

To clear the tracheobronchial tree, instruct the patient to cough preoperatively. Cold steam or water nebulizers effectively humidify the nasal, pharyngeal and bronchial passages and often make the patient more comfortable. Tenacious secretions become more watery under humidification, clear more thoroughly preoperatively and are more easily suctioned from the airway during anesthesia.

Give intravenous fluids to those patients who appear dehydrated due to a cold. In a well hydrated patient the respiratory tract secretions are less viscid and more watery. This is particularly true in asthmatics.

Summary: Administration of emergency anesthesia to a patient with a cold or upper respiratory infection can lead to a chain of events that may result in increased postoperative morbidity and even death. This is because of the excess secretions formed in these conditions. Preoperative measures to prevent or reduce these secretions should be undertaken and will result in smoother and safer anesthesia.

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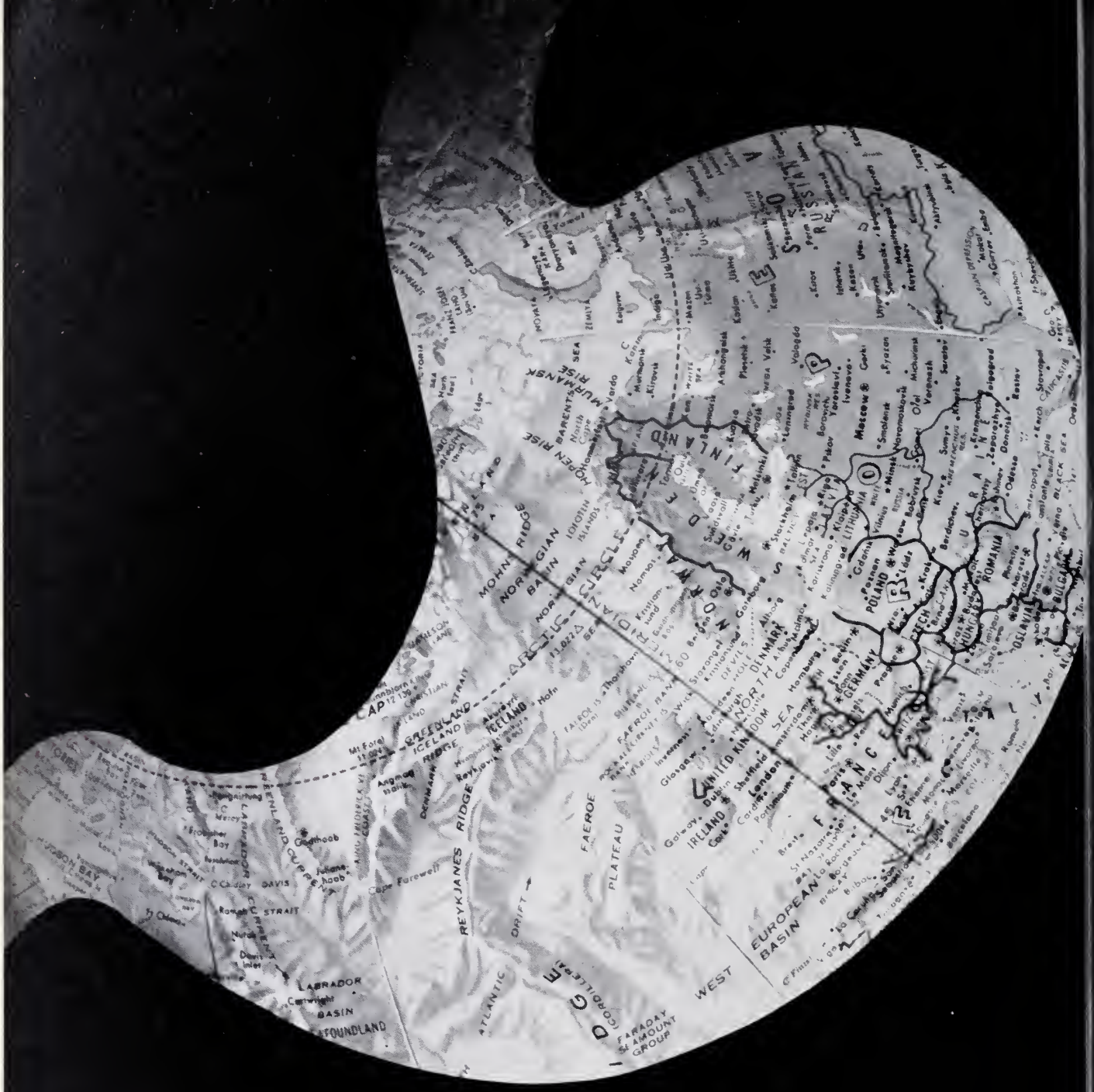
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The "Socio-geographic" mystery

Why is one man's gastric ulcer another man's duodenal?



Geographic variation in the *incidence* of peptic ulcer is a familiar fact. But the proclivity of certain *kinds* of ulcer for certain geographic areas is a recently recognized phenomenon.[1,2]

For example, in one particular Norwegian fishing village there is a tendency for patients to develop a gastric ulcer; anywhere else in Norway, ulcers are usually duodenal. Peruvians high in the Andes have more gastric ulcers than their compatriots in the lowlands. Why? Nobody knows.

Social variations, too. Even in the same geographic areas there are interesting variations. An Englishman's ulcer depends on his social standing—professional men suffer with duodenal ulcers, while workingmen have more of the gastric variety. In southern India the pattern is reversed. Here, duodenal ulcers are common among laborers and agricultural workers and rare among the upper classes.

Investigators are exploring every possible theoretical avenue in their search for the cause of peptic ulcer. Of all the factors implicated in ulcerogenesis, the one that is generally acknowledged to be of primary importance is hypersecretion of gastric acid.[3-8] Or, as one author states it: "The medical management of peptic ulcer pharmacologically is, in the final analysis, concerned largely with the effective inhibition of peptic activity."[3]

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Precautions: Administer with caution in the presence of incipient glaucoma.
Adverse Reactions: Dryness of the mouth, blurred vision, urinary difficulties, and constipation are rarely troublesome and may generally be controlled by reduction of dosage. Other side effects associated with the use of anticholinergic drugs include tachycardia, palpitation, dilatation of the pupil, increased ocular tension, weakness, nausea, vomiting, headache, dizziness, drowsiness, and rash.
Dosage: Dosage should be adjusted according to individual patient response. Average and maximum recommended dose is 1 tablet 3 times a day: in the a.m., early p.m., and at bedtime. *See product literature for full prescribing information.*
Supply: Robinul (glycopyrrolate 1 mg.); Robinul Forte (glycopyrrolate 2 mg.); Robinul-PH (glycopyrrolate 1 mg.) with phenobarbital 16.2 mg. (Warning: May be habit-forming); Robinul-PH Forte (glycopyrrolate 2 mg.) with phenobarbital 16.2 mg. (Warning: May be habit-forming.) In bottles of 100 and 500 scored tablets.
References: **1.** Jones, F. A., and Gummer, J. W. P.: Clinical gastroenterology, Springfield, Ill., Charles C Thomas, 1960, pp. 322-3. **2.** Bockus, H. L.: Gastroenterology, 2nd ed., vol. 1, Philadelphia, Saunders, 1963, p. 468. **3.** Sun, D. C. H.: Ann NY Acad Sci 99:153 (Feb. 28) 1962. **4.** Moore, V. A.: Postgrad Med 38:216 (Sept.) 1965. **5.** Dragstedt, L. R., Woodward, E. R., Storer, E. H., Oberhelman, H. A., Jr., and Smith, C. A.: Ann Surg 132:626 (Oct.) 1950. **6.** Posey, E. L., Jr., Smith, P., Turner, C., and Aldridge, J.: Amer J Dig Dis 10:399 (May) 1965. **7.** Lamphier, T. A., Siegel, L., and Goldberg, R. I.: Amer J Gastroent 37:551 (May) 1962. **8.** Kasich, A. M., and Fein, H. D.: Ibid 39:61 (Jan.) 1963. **9.** Epstein, J. H.: Ibid 37:295 (Mar.) 1962. **10.** Moeller, H. C.: Ann NY Acad Sci 99:158 (Feb. 28) 1962. **11.** Slanger, A.: J New Drugs 2:215 (Jul.-Aug.) 1962. **12.** Barman, M. L., and Larson, R. K.: Amer J Med Sci 246:325 (Sept.) 1963. **13.** Shutkin, M. W.: Amer J Gastroent 38:682 (Dec.) 1962. **14.** Fleshler, B.: J New Drugs 2:211 (Jul.-Aug.) 1962.

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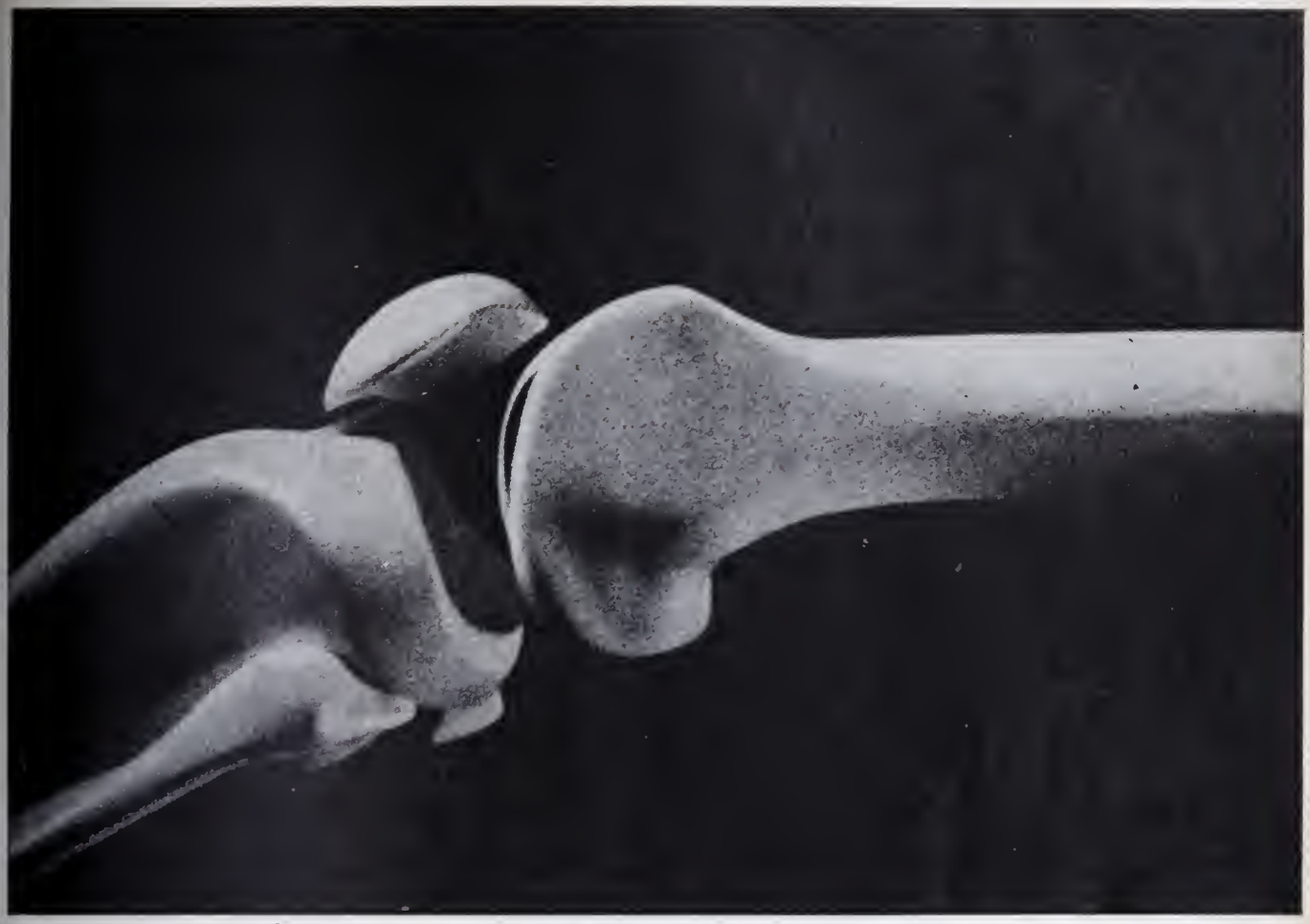
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Contraindications
Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. Because of the increased possibility of toxic reactions, the drug should be used with greater care in the elderly and should not be given when the patient is senile or when other potent chemotherapeutic agents are given concurrently. Large doses of Butazolidin alka are contraindicated in patients with glaucoma.

Warning
If coumarin-type anticoagulants are given simultaneously, the physician should watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Patients receiving such concomitant therapy should be carefully observed for this effect.

Use with caution in the first trimester of pregnancy.

Precautions
Before prescribing, the physician should obtain a detailed history and perform a complete physical and laboratory examination, including a blood count. The patient should be kept under close supervision and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools. Regular blood counts should be made to guard against blood dyscrasias.

Adverse Reactions
The most common adverse reactions are nausea, edema and drug rash. Moderately lowered red cell count may sometimes occur due to hemodilution. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, exfoliative dermatitis, Stevens-Johnson syndrome or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vertigo or languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia are also possible side effects.

Confusional states, hyperglycemia, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hepatitis, jaundice and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently.

Dosage
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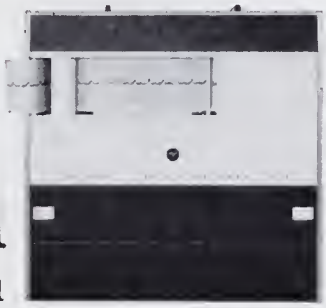
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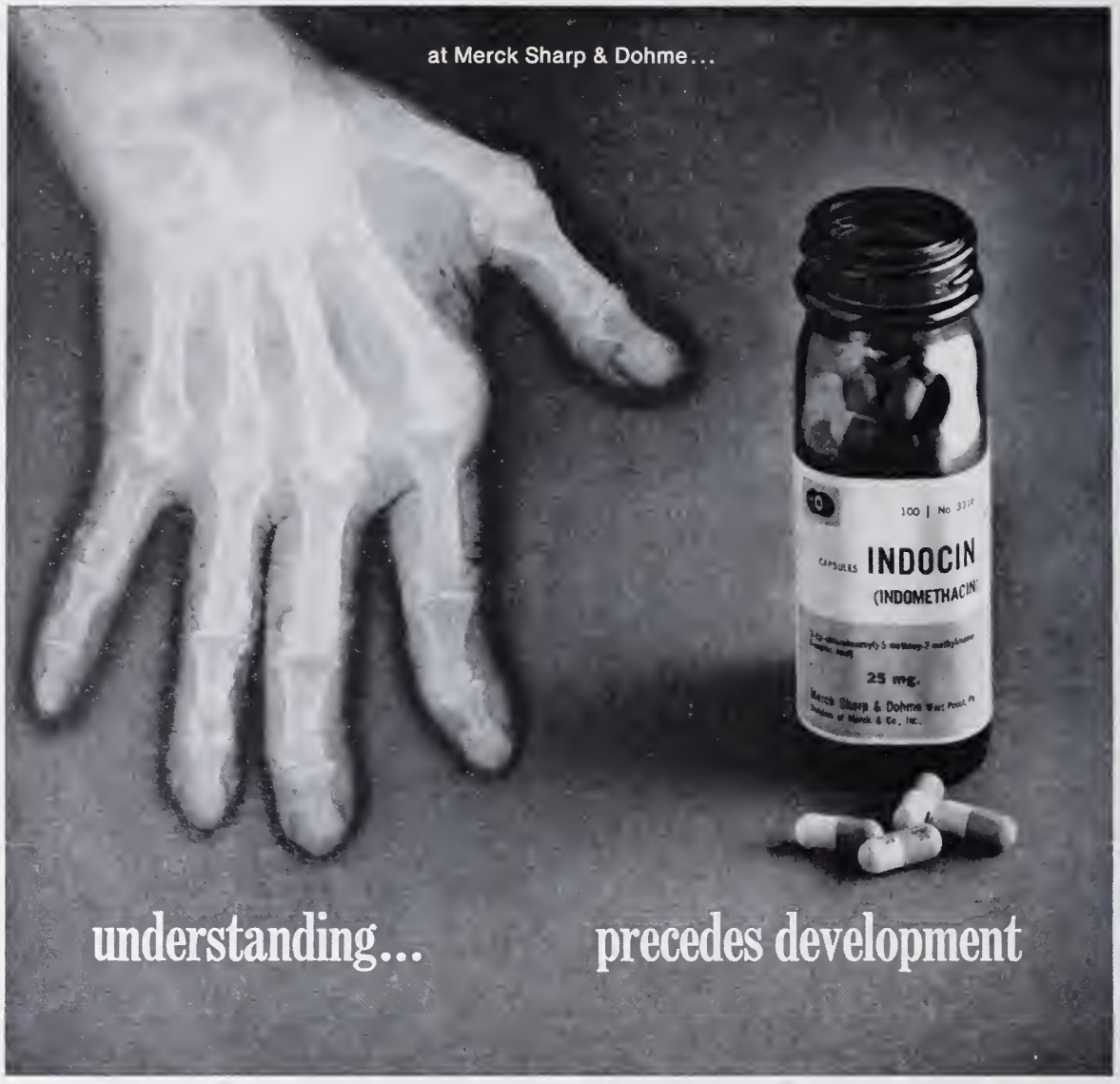
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Breast-feeding and the "modern mother"

Despite a mild resurgence of interest in the importance of breast-feeding a few years ago, many women today do not choose to nurse their young. This is for a variety of reasons—social, economic, cultural and sometimes medical. In such cases the physician's task is to find the most suitable means of preventing lactation and easing the pain of breast engorgement.

The means of therapy

The value of hormone therapy for this indication is of course well established. Both androgen and estrogen are known to inhibit the production and secretion of the lactogenic hormone by the anterior pituitary. As estrogen levels decline sharply at parturition, lactogenesis is established. When androgen and estrogen are administered to the patient before the release of the lactogenic hormone lactation and breast engorgement are usually prevented.

The time of therapy

The time of administration of this combined medication is crucial; it must be given early enough to suppress the pituitary prolactin and last long enough to permit physiologic readjustment during the puerperium. Excellent results are most often seen when therapy is administered before the onset of the second stage of labor.

However, factors other than effectiveness must also be considered. The agent selected should not interfere in any way with parturition, subsequent uterine involution and the restoration of normal ovarian cyclic function. Furthermore, it should not cause rebound breast engorgement or other manifestations of hormonal imbalance.

A balanced formulation

Providing single-dose therapy for the prevention of lactation and breast engorgement, Deladumone OB is a potent androgen-estrogen combination with a prolonged action. The optimal balance of androgenic and estrogenic hormones achieved in this preparation minimizes the disadvantages inherent in single hormone therapy, such as rebound breast engorgement. Involution of the uterus and resumption of menstrual cycles are not affected.

As reported in a recent published study (Roser, D. M.: Obstet. & Gynec. *27*:73, 1966), Deladumone OB provided good suppression of breast engorgement in 95.3% and suppression of lactation in 81.1% of 86 obstetrical patients. These results are in general agreement with those of many earlier investigations; in several studies this injectable androgen-estrogen combination proved to be superior to oral medication.

Dosage:

As a single injection of 2 cc. before the onset of the second stage of labor.

Contraindications:

Established or suspected mammary cancer or genital malignancy.

Precautions and Side Effects:

Certain patients may be unusually responsive to either estrogenic or androgenic therapy. In such individuals virilization, uterine bleeding or mastodynia may occur.

Supply:

Deladumone OB, providing 180 mg. testosterone enanthate and 8 mg. estradiol valerate per cc., is available in 2 cc. Unimatic® disposable syringes and in 2 cc. vials. Both preparations are dissolved in sesame oil, with 2% benzyl alcohol as a preservative. *Before use, consult product literature for full prescribing information.*

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Contraindications: Previous allergic or idiosyncratic reactions to meprobamate or meprobamate-containing drugs.

Precautions: Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of pre-existing symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Usual adult dosage: One or two 400 mg. tablets three times daily. Doses above 2400 mg. daily are not recommended.

Supplied: 'Miltown' (meprobamate) is available in two strengths: 400 mg. scored tablets and 200 mg. coated tablets. 'Meprotabs' (meprobamate) is available as 400 mg. white, coated, unmarked tablets. *Before prescribing, consult package circular.*

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CONTRAINDICATIONS: Do not use in intestinal obstruction, extensive ulceration of bowel, or diverticulosis; in hypersensitivity to sulfonamides or neomycin; in pregnancy at term, in premature infants, or during first week of life in the newborn.

WARNINGS: Use only after critical appraisal in patients with hepatic or renal damage, urinary obstruction, or blood dyscrasias. Fatal hypersensitivity reactions and blood dyscrasias reported with use of sulfonamides. Consider periodic blood counts, hepatic and renal function tests during intermittent or chronic use.

PRECAUTIONS: Succinylsulfathiazole: Use with caution if there is history of significant allergies and/or asthma. Continued use requires supplementary vitamins B_1 and K. *Neomycin:* Watch for

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curare-like neuromuscular block during anesthesia if neomycin is used preoperatively in large doses when renal function is poor; watch for overgrowth of nonsusceptible organisms. Consider possibility of ototoxicity and nephrotoxicity with prolonged high dosage.

SIDE EFFECTS: As with all sulfonamides: Headache, malaise, anorexia, G.I. symptoms, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, rash, conjunctival and scleral injection, petechiae, purpura, hematuria, and crystalluria have been noted. Reduced fecal output of thiamine and decreased synthesis of vitamin K have been reported. *Neomycin:* Nausea, loose stools.

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DOSAGE: *Children under 25 pounds*—5 mg. per pound of body weight every six hours. *Children 25 to 50 pounds*—125 mg. every six hours. *Adults and children over 50 pounds*—250 mg. every six hours. For severe infections, these dosages may be doubled.

Available in Pulvules®, suspension, drops, and chewable tablets. Ilosone Chewable tablets should be chewed or crushed and swallowed with water.

Additional information available to physicians upon request.
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The Virginia
MEDICAL MONTHLY

September, 1966
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Guest Editorial . . .

Medical Quackery

"PHYSICIANS, as conservators of the public health, are bound to bear emphatic testimony against quackery in all its forms."

Is this a quote from proceedings of the American Medical Association's Clinical Convention in Philadelphia in December?

The meeting was in Philadelphia, but the year was 1847!

So you see, from its very inception 118 years ago, the American Medical Association has been battling quackery and it is dedicated to a continuation of this warfare against wasting the nation's health and its health care dollar . . . of fighting fraud at the bedside of ill and desperate people.

For, as long as there are human beings, there will be human nature . . . and quacks—pretenders to ability they don't possess—to take advantage of the fact.

The health quack is not so easy to spot these days. The stovepipe hat and the pitchman's hawkings have gone. In their place are their space-age counterparts, the suave, apparently-sophisticated super salesmen with the Madison Avenue manners.

These merchants of menace, more insidious and unscrupulous than ever, have many new products, worthless diet fads, worthless food supplements, worthless cosmetic devices and treatments, worthless "cures" for everything—even into the area of brain-damaged children and other mental illness.

They bilk the undiscerning—the uninformed, the desperate, the unsuspecting of all ages—of millions of dollars a year. The estimates of the costs of medical quackery are at best calculated guesses, but they have gone as high as a billion dollars a year. And one authority in the

field of quack-fighting has stated that "medical quackery each year costs more lives than all crimes in the United States."

It is this cost of life—and health—that has placed America's physicians in the front lines of the war on quacks. It is the insidious side effect of quackery with which medicine concerns itself—the delay in proper medical care that may cost life itself.

It is for this reason, too, that the medical profession is dedicated to education of the people about cultism—chiropractic and the other health sects that turn their backs on scientific medicine.

The House of Delegates of the American Medical Association said in 1933:

> "Either the theories and practices of scientific medicine are right and those of the cultists are wrong, or the theories and practices of the cultists are right and those of scientific medicine are wrong."

And in 1961, it said:

> "There can never be a majority party and a minority party in any science . . ."

After the quack or the cultist has extracted his pound of flesh—after the damage is done and after the sick may have become the dying because of the delay in proper care—scientific medicine usually is called upon to pick up the pieces.

Medicine has tried and will continue to try to do that job, too, but how much easier the job would have been—how many lives would have been saved—if . . .

H. Doyle Taylor

Editor's Note: Mr. Taylor is Director of the Department of Investigation of the American Medical Association.

Electrical Shock Therapy of Arrhythmias

ALSTON W. BLOUNT, JR., M.D.
DAVID B. PROPERT, M.D.
Richmond, Virginia

The treatment of cardiac arrhythmias has been revolutionized by the advent of cardioversion.

ELECTRICAL SHOCK CONVERSION (cardioversion) of cardiac arrhythmias, which has been gaining wide acceptance and use in the past few years following the pioneering work of Kouvenhoven,[1] Zoll,[2] and Lown,[3] represents an entirely new approach to the therapy of disorders of cardiac rhythm. Although the intelligent use of drugs is still indispensable in the management of arrhythmias, many disabling and life threatening arrhythmias can be converted to sinus rhythm without potentially dangerous drug effects by properly synchronized direct current (DC) countershock depolarization of the heart.

Advances in the area of electrophysiology of the heart have contributed to a better understanding of the mechanisms of cardiac rhythm, both normal and abnormal.[4,5] With this a more rational approach to the diagnosis and subsequent therapy of arrhythmias is possible. This report deals with a discussion of the genesis of arrhythmias and with the application of DC cardioversion in the treatment of these disorders of cardiac rhythm.

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Reprint Requests—Veterans Administration Hospital, Richmond, Virginia.

Current Concepts of Mechanisms of Arrhythmias

Current concepts of mechanisms of arrhythmia include circus movement or re-entry and spontaneous focal discharge of unitary theory.

The circus movement approach postulates altered refractory period and slow conduction velocity allowing an impulse to travel a circuitous route always encountering excitable tissue and thus continuing the arrhythmia. This is a possible explanation for atrial fibrillation. Related to this is the mechanism of re-entry in which an area of depressed excitability and/or conduction slows an impulse, allowing it to re-enter the surrounding tissue which has recovered and is therefore excitable. This is a possible explanation for coupled extrasystoles.

Spontaneous focal discharge or unitary theory conceives of a single discharging focus or pacemaker to explain virtually all arrhythmias. Study of the electrophysiology of the different cell types of the heart has shown that the property of automaticity or ability to act as a pacemaker site is limited to the sino-atrial (S-A) node, certain regions of the atria, the lower atrioventricular (A-V) node, the bundle of His, the bundle branches, and their peripheral ramifications or Purkinje fibers. Atrial and ventricular muscle do not have this pacemaker potential.[5] This property of automaticity is characterized by spontaneous discharge or depolarization during the period of diastole. When this depolarization reaches a threshold, complete discharge occurs

with spread through the entire heart resulting in electrical and mechanical systole. These pacemaker fibers are influenced in their rate of discharge by many factors such as neural impulses, drugs, oxygen, tension, and electrolytes. These are summarized in Table I.

Table I
Factors Influencing Slope of Diastolic Depolarization and Pacemaker Rate

Increased	*Decreased*	*Abolished*
Sympathetic activity	Parasympathetic activity (VAGAL)	
Low potassium	High potassium	Excessive high potassium
High calcium	Low calcium	
Digitalis	Procaine amide	
Hypoxia	Quinidine	
Excessive stretch		

The dominant pacemaker of the heart is normally the S-A node because it has the fastest innate rate of diastolic depolarization of all potential pacemakers. The dominant pacemaker may be shifted from the S-A node to an ectopic site for any one or combination of the following reasons: suppression of a higher pacemaker; block of impulses from the S-A node as in various forms of A-V block; or enhancement of a lower pacemaker by factors listed in Table I.

Atrioventricular transmission of impulses from the S-A node to the ventricular Purkinje fibers and the ventricular muscle has been shown to be influenced greatly by both cardiac and extracardiac factors. These are listed in Table II. The junction between the atria and the upper A-V node has been shown to be an area highly susceptible to block.[5]

Table II
Factors Influencing A-V Conduction

Increased	*Decreased*
Sympathetic activity	Parasympathetic activity (VAGAL)
Low potassium	High potassium
	Digitalis
	Quinidine
	Hypoxia
	Procaine Amide

Principles and Technique of Cardioversion

The use of DC countershock to terminate ectopic arrhythmias is based on the following principles: factors initiating atrial or ventricular arrhythmias are generally transient, but once initiated, abnormal mechanisms are self-sustaining; when an ectopic pacemaker site is depolarized, the sinus node, which has the highest innate rhythmicity, resumes as dominant cardiac pacemaker; and depolarization of the entire human heart can be accomplished across the intact chest by electrical discharge.[3]

Direct current cardioversion uses a single pulse DC discharge from a capacitor through an inductance with the energy measured in watt seconds (Joules) with a range of 0-400 watt seconds (Joules) and lasting 2.5 milliseconds. This is synchronized to be delivered during the down stroke of the R wave of the electrocardiogram in order to avoid the vulnerable late S-T and T wave period which frequently produces ventricular flutter or fibrillation[6] (Figure 1). In patients without atrial fibrillation, a shock delivered at the late R wave or early S-T period, corresponding to atrial repolarization, may produce atrial fibrillation. Lown *et al.*[7] have demonstrated DC countershock to be safer and more effective than alternating current (AC) countershock in terminating ventricular fibrillation in dogs.

In this hospital elective cardioversion is done in the operating room. Since the shock is painful at higher energy levels and hypoxemia plays a role in sustaining ectopic tachycardias, the authors believe that light anesthesias with intravenous thiopental sodium or other ultra-short acting barbiturates and assisted respirations with high concentrations of oxygen aid in the procedure. In emergency situations countershock can be performed in the patient's room using intravenous meperidine (Demerol®) to alleviate the pain in the conscious patient. Nasal oxygen is also recommended

here. It is preferable for the shock to be delivered across the chest in an anterior posterior direction, for arrhythmias can generally be converted with lower energy levels.[8] Although the patient can be turned on his side, better ventilation is obtained when the patient is supine, and a flat or "pancake" type electrode is placed at the left scapular area while a "mushroom" type electrode is used anteriorly just to the left of the sternum. Assisted respiration with high concentrations of oxygen is maintained right up to the time of shock.

There is constant electrocardiographic monitoring during the procedure with the electrocardiograph connected to the countershock apparatus by way of a jumper cable and *never directly* to the patient. A test discharge is recorded on the electrocardiogram to assure that the impulse falls on the down stroke of the R wave (Fig. 2).

The initial shock is at the level of 50 watt seconds with subsequent shocks of 100, 200, and 400 watt seconds delivered until cardioversion occurs (Figure 2). As will be discussed later, supplemental intravenous quinidine may be helpful with initial failure at higher energy levels.

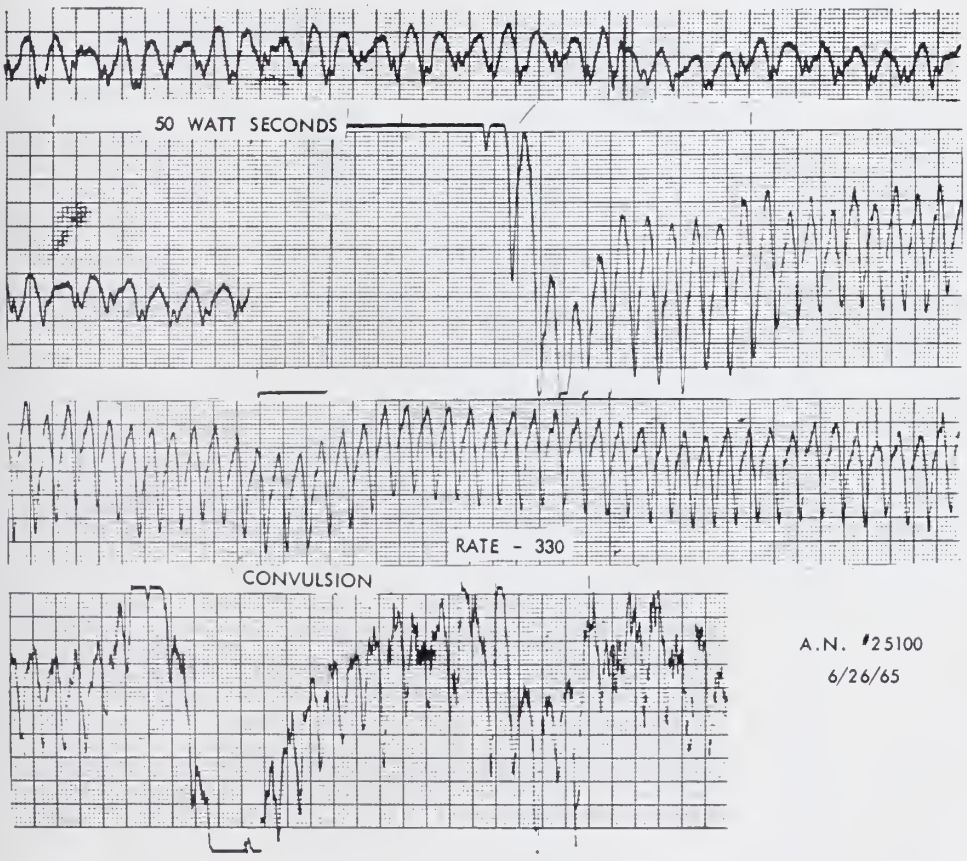


Fig. 1. In this patient with ventricular tachycardia, the shock was delivered on the primary positive deflection, the T wave (a ventricular vulnerable period), producing ventricular flutter with a rapid rate and resulting in a convulsion.

The immediate post conversion rhythm is stable sinus rhythm in 25-30% of cases. Atrial, nodal, and ventricular premature contractions are frequently seen transiently after conversion of atrial arrhythmias. Should an ectopic atrial beat fall during the period of atrial repolarization, which is a vulnerable period of increased excitability, atrial fibrillation or flutter may resume.[9] Ectopic beats are more likely to occur with hypoxemia or excessive digitalis. Disturbances of A-V conduction are more likely to occur with excessive digitalis administration or in those patients with preconversion

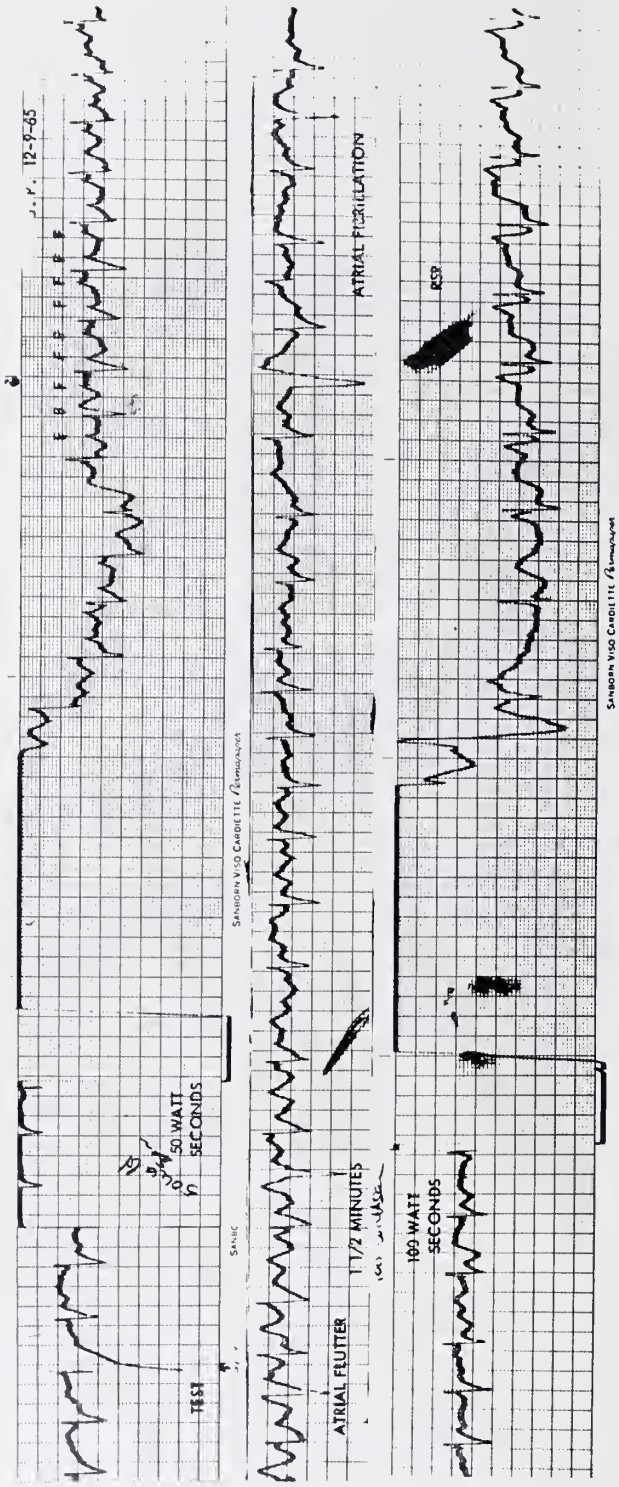


Fig. 2. The test shock is seen to fall on the downstroke of the R wave, the optimum period. In this patient with chronic atrial fibrillation initial countershock resulted in an immediate post shock rhythm of atrial flutter which reverted after 1½ minutes to atrial fibrillation. A second shock of 100 watt seconds produced sinus rhythm.

rhythms with high degrees of A-V block with or without digitalis, such as atrial fibrillation with slow ventricular response). The unlikely event of electrical asystole following conversion can readily be resuscitated by external massage or electrical pacemaker.

Drugs and Cardioversion

The use of drugs remains important at the time of cardioversion. Since digitalis may contribute to post conversion arrhythmias, especially when it has been "pushed" to control ventricular response rate in atrial fibrillation, the practice is to discontinue its use for 48 hours prior to elective conversion attempts.

Quinidine is given before attempted conversion of atrial fibrillation first as a test dose of 200 mg. by mouth to insure patient tolerance, and then 400 mg. every six hours for 24 to 36 hours before countershock in order to obtain adequate blood level to reduce the likelihood of recurrent fibrillation after conversion. In addition some 10-15% of patients will convert to sinus rhythm on this dose before countershock.[10] There also may be some relation between the blood level of quinidine and success of conversion with electrical countershock. On several occasions the authors have given supplemental doses of quinidine intravenously following failure of conversion at high energy levels and then obtained conversion with another countershock (Figure 3). Intravenous quinidine is also helpful when quinidine has not been given prior to attempted electrical conversion because of the urgency of the situation. One must keep in mind the potential hazard of quinidine in depressing pacemaker function, A-V conduction, and myocardial contractility. Since the drug is both degraded in the liver and excreted by the kidney, blood levels are more likely to be variable in disorders affecting these organs.[11] Congestive heart failure also reduces excretion of quinidine.[12] Although the risk of sudden death or tox-

icity makes the use of quinidine in large or frequent doses hazardous,[13] it remains still the best suppressive drug to prevent recurrent atrial arrhythmias. In the patient who cannot tolerate the administration of quinidine, procaine amide (Pronestyl®) can be substituted in the oral dose of 250-500 mg. every six hours.

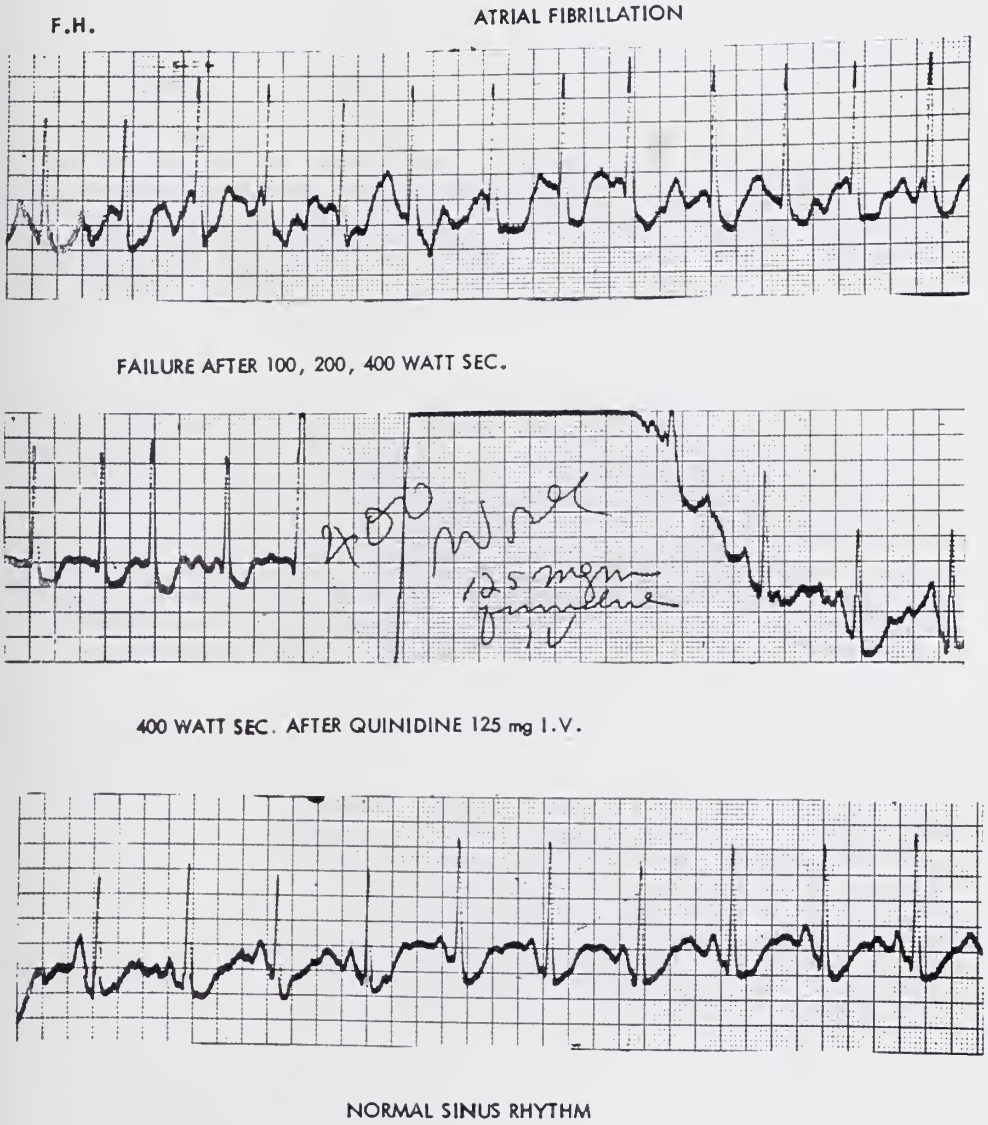


Fig. 3. A patient with chronic atrial fibrillation failed to convert after shocks of 100, 200 and 400 watt seconds. After 125 mg. of quinidine intravenously, countershock with 400 watt seconds was repeated successfully.

With regard to anticoagulant therapy prior to conversion the experience of others has shown that the use of anticoagulant drugs for 10 to 14 days prior to attempt at conversion using quinidine has been associated with embolic phenomenon in about 1 to 3% of cases.[13,14] This is the same incidence as in non-anticoagulated patients.[13] Results of electrical cardioversion have been reported primarily in non-anticoagulated patients with embolic episodes also occurring in 1 to 3%.[3,9,10] Korsgren *et al.*[8] have reported on electrical cardioversion in 138 patients treated with anticoagulants with no embolic phenomenon. The question of the necessity of anticoagulants remains therefore unanswered. Curernt policy of the authors generally is to anticoagulate

only those with a previous embolic phenomenon.

Selection of Patients for DC Cardioversion

In selecting patients for cardioversion one must weigh the factors of the potential seriousness of the arrhythmia and how readily and safely it can be managed with drug therapy. Predisposing factors of shock, hypoxemia, and serum electrolyte disorders such as marked shifts in potassium or calcium should be treated first.

Rapid regular supraventricular tachycardias such as paroxysmal atrial tachycardia or nodal tachycardia are often easily treated with sedation, carotid sinus pressure, or digitalis in the case of atrial tachycardia or procaine amide in the case of nodal tachycardia. With failure of the above or in the case of rapid tachycardia associated with shock and/or pulmonary edema where urgency is a factor, cardioversion may be a dramatic and life saving means of terminating the arrhythmia. If the arrhythmia is the result of digitalis toxicity one must be quite cautious because a more ominous arrhythmia may occur after cardioversion.[9]

The greatest application of cardioversion is in treating atrial fibrillation and flutter. The indications for attempted conversion of atrial fibrillation include the following: young or middle aged patients with or without heart disease; patients with hyperthyroidism with persistent atrial fibrillation after therapy for hyperthyroidism; patients with congestive heart failure in whom routine therapy has not controlled failure; angina pectoris not controlled by routine therapy; peripheral or pulmonary emboli from the atria; patients with bothersome palpitation; and patients after mitral valve surgery. Contraindications to attempted conversion include patients who have had previous conversion without benefit, who have recurrent fibrillation in spite of adequate prophylactic quinidine, who lack reliability to stay on quinidine, and who have complete A-V block. Relative contraindications include asymptomatic elderly patients well controlled on digitalis; those with very slow ventricular rate without digitalis who may convert to S-A block or arrest or slow A-V nodal rhythm; atrial fibrillation which is the result of or related to digitalis toxicity; patients in whom mitral valve surgery is planned; and patients who cannot tolerate prophylactic quinidine or procaine amide. In the last situation where the fibrillation contributes to intractable heart failure, conversion to sinus rhythm may be enough to obtain compensation though chances for return of fibrillation are great.

In chronic atrial flutter DC cardioversion is the treatment of choice except in cases where digitalis toxicity is a factor. With flutter of acute onset without shock or pulmonary edema, an initial trial of digitalis may be warranted since there is often conversion to sinus rhythm as the A-V block increases. In all other cases cardioversion is the treatment of choice.

In ventricular tachycardia countershock is indicated when shock or pulmonary edema are present and the situation is critical. Suppressive drug therapy such as procaine amide or quinidine may be used in the absence of the above urgent states especially in cases of recurrent ventricular tachycardia. If there is an intolerance to the drugs or any sign of toxic manifestations to standard doses, cardioversion should be used. Associated digitalis toxicity is still a relative contraindication but electrical countershock may be tried in desperate situations when drug therapy fails. With ventricular flutter or fibrillation DC countershock is the treatment of choice in conjunction with assisted respiration and closed chest massage (Figure 4). Indeed it may be effective when AC defibrillation fails.[15]

Hemodynamic studies in cases of atrial fibrillation before and after conversion have shown that immediately there is a tendency for improvement in both right and left

ventricular function, while cardiac output is unchanged or slightly increased.[16] In follow-up studies five to 15 days after cardioversion, cardiac output increases up to 30%.[17]

Factors influencing success of conversion in cases of atrial fibrillation include length of time in fibrillation, for Korsgren, *et al.* found only 50% initial success for those in fibrillation five years or over while there was only one failure in those with two years or less of arrhythmia; the etiology of the underlying heart disease with mitral stenosis and arteriosclerotic heart disease carrying the best prognosis for successful conversion while significant mitral insufficiency contributes to the worst prognosis;[3,8] and the presence of a giant left atrium which heralds a poor chance for conversion.[3]

The immediate success rate of DC cardioversion for various arrhythmias has been summarized in Table III using data from reports in the literature and the authors' personal experiences. The definition of successful conversion of atrial arrhythmias varies among the series with the necessary minimal time in sinus rhythm ranging from a few minutes[3] to 24 hours,[8] following conversion. The immediate success rates of 86% for atrial fibrillation and 93% for atrial flutter compare with a conversion success rate of 71% for quinidine therapy in a combined series of 476 cases of both atrial fibrillation and flutter,[18] and a success rate as low as 35% using quinidine has been reported.[19] In addition Korsgren *et al.* using DC cardioversion report a success rate of 63% in 48 patients with previous failure of conversion using quinidine.

The figures for other supraventricular

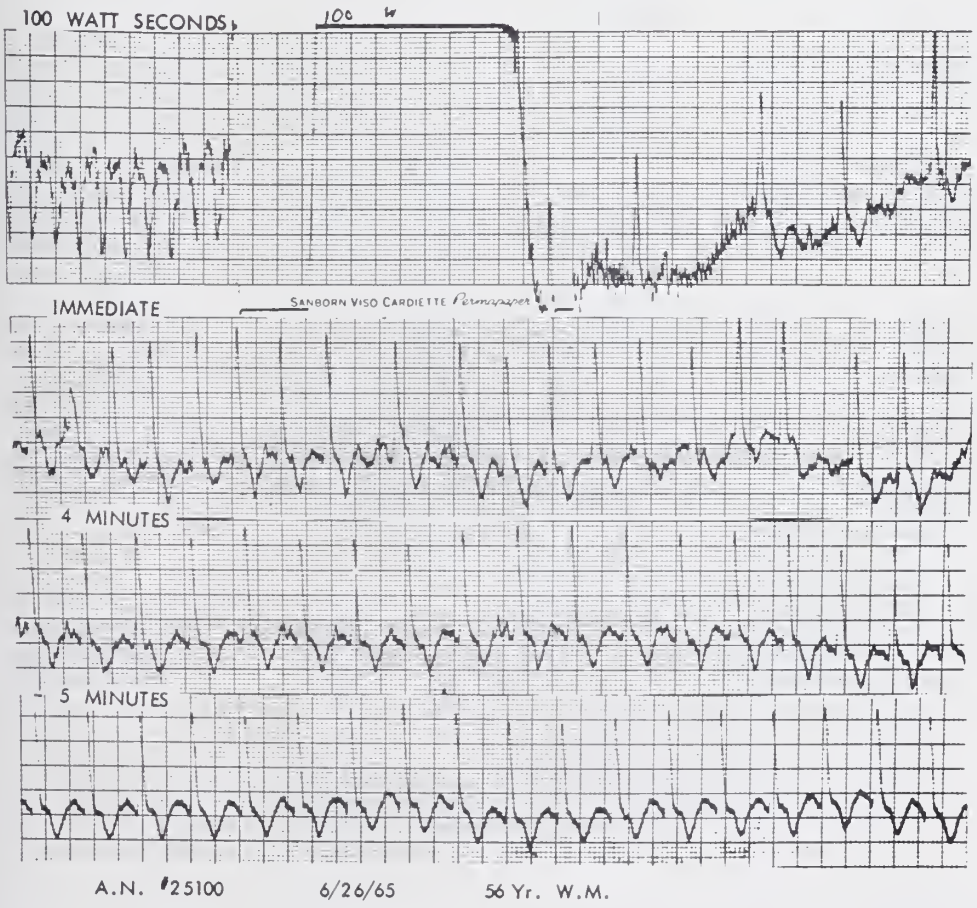


Fig. 4. This tracing of ventricular flutter is a continuation of Figure 1. A repeat countershock resulted in an irregular supraventricular tachycardia which gradually slowed. Although the rate was still rapid, consciousness returned and the blood pressure rose.

Table III

Arrhythmia	No. Attempts	No. Success	Percent Succes.
Atrial Fibrillation			
Lown (3)	227	208	92
Korsgren, *et al.* (8)	138	107	78
Oram (17)	10	10	100
Killip (20)	59	53	90
Authors' observations	23	17	74
Brown, *et al.* (21)	20	17	85
	477	412	86
Atrial Flutter			
Lown (3)	36	36	100
Killip (20)	8	7	87.5
Authors' observations	12	9	75
Brown (21)	4	4	100
	60	56	93
Other Supraventricular Tachycardias			
Lown (3)	10	7	70
Killip (20)	10	6	60
	20	13	65
Ventricular Tachycardias			
Lown (3)	32	31	37
Killip (20)	8	6	67
	40	37	92.5

tachycardias and ventricular tachycardia take on added significance when it is realized they represent many cases of drug therapy failure and/or patients critically ill with shock or pulmonary edema.

In long term follow-up studies the relapse rate in atrial fibrillation has varied from 20%[17] to 57%[8]. A major factor in relapse seems to be inadequate quinidine therapy or intolerance to the drug in its prophylactic use.[8,10]

Conclusions and Summary

Advances in knowledge in the area of electrophysiology of the different cell types of the heart have shed more light on the mechanism of normal and abnormal cardiac rhythm. Knowledge of the roles of nervous control, oxygen saturation, electrolytes, and drugs in relation to arrhythmias have further led to a more rational approach to the diagnosis and management of these disorders.

The development of safe synchronized DC depolarization of the heart across the closed chest has opened an entirely new approach to the therapy of arrhythmias. No longer is one forced to use potentially hazardous drugs such as quinidine as the primary agent to terminate the arrhythmia. Frequently encountered arrhythmias such as atrial fibrillation or flutter can be sucessfully and safely converted to sinus rhythm in a higher percentage of cases than with drugs. More acute arrhythmias ranging from paroxysmal atrial tachycardia to ventricular fibrillation can be converted swiftly and often with dramatic results.

One, however, cannot dismiss a thorough understanding of drugs available to treat arrhythmias because some arrhythmias may still be managed with these and the prevention of recurrent arrhythmia is often dependent on their use.

The authors wish to acknowledge the criticisms and encouragement of W. T. Thompson, Jr., M.D., Chairman of the Department of Medicine, Medical College of Virginia.

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Surgical Treatment of Thyroid Disease

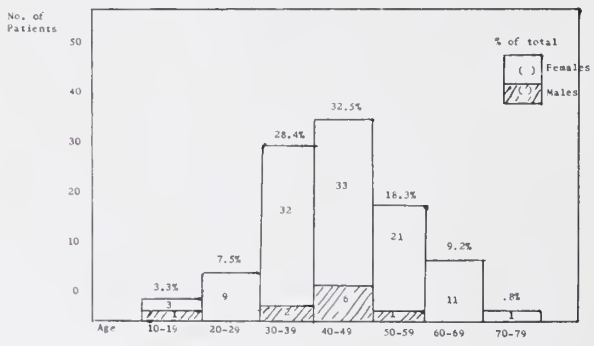
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Surgery is not only the treatment of choice when malignancy of the thyroid is suspected but it is also a safe and satisfactory treatment in other toxic and non-toxic manifestations of thyroid disease.

THE SURGICAL TREATMENT of thyroid disease in a series of 120 patients has been analyzed. All patients admitted to a 180 bed community hospital (Leigh Memorial Hospital, Norfolk, Virginia) for thyroid surgery during a three year period were included. Emphasis has been placed on the pathological findings, the extent of thyroid surgery and the morbidity.

CHART I

AGE AND SEX INCIDENCE



Signs and Symptoms

This group of 120 patients composed 0.6% of all hospital admissions and 2.3% of the major operations performed. Females outnumbered the males by 110 (92%) to 10 (8%). The ages ranged from 10 to 79 years with a peak in the 30 to 50 year old group (Chart I).

The most frequent presenting symptom was a mass in the neck or enlargement of the thyroid gland. This was the chief complaint in 65% of the patients. Twenty-three percent of the group sought medical attention because of symptoms which are frequently associated with overactivity of the thyroid gland, namely, nervousness, palpitations and weight change. However, only 18 of these 27 patients actually proved to have hyperthyroidism. The remaining 12% presented symptoms caused by mechanical encroachment of the enlarging thyroid gland. These complaints were divided equally between dyspnea, dysphagia and easy fatiguability.

CHART 2

INCIDENCE OF THYROID LESIONS

Pathology	Vansant No. of Pts	Vansant %	Fitchett (2) %	Cole (3) %
Nodular Goitre	53	44.2	59	53.7
Benign Adenoma	25	20.8	9.8	
Toxic Goitre	18	15	14.9	40
Thyroiditis	15	12.5	9	1.6
Carcinoma	8	6.7	5.4	4.7
Diffuse Colloid Goitre	1	.8		
Totals	120	100		

Pathological Findings and Surgical Treatment

Utilizing a simplified classification devised by Warren and Meissner,[1] the pathological findings have been tabulated into six categories (Chart 2). Nodular goitre composed the largest group (44%). Second in frequency was the solitary benign adenoma (21%). When these two groups are added

together the combined incidence is comparable to those reported by Fitchett[2] and Cole[3] (Chart 2).

Toxic goitre was limited to only 15% of the cases. Thomas[4] has described the current trend away from the surgical treatment of hyperthyroidism which is graphically depicted in this series.

The over-all incidence of carcinoma in this series of 6.7% was comparable to the figures 5.4% and 4.7% recorded by Fitchett and Cole, respectively.

Rosenbaum and Reveno[5] have emphasized the difficulty in the preoperative diagnosis of thyroiditis. The high incidence of surgically treated thyroiditis (12.5%) in this group is indicative of this problem.

The surgical techniques have been tabulated according to the extent of thyroid tissue that was removed.

In 94% of the operations, radical excision of the involved thyroid gland was performed. These procedures included total lobectomy, bilateral subtotal resection and total thyroidectomy. In only four patients was surgery limited to local excision of the thyroid lesion. Chart 3 summarizes the techniques employed in the treatment of the various pathological entities.

The most consistent treatment was for hyperthyroidism in which either total thyroidectomy or bilateral subtotal thyroidectomy was performed in all instances. Colcock[6] has reported a 98% permanent cure rate following radical excision in this disease.

Twenty-six of the 29 patients found to have a solitary nodule had at least a total lobectomy performed. Martin[7] has emphasized the necessity of removing at least a total lobe when operating upon the solitary nodule. Crile[8] states that every solitary nodule should be excised as though it is an overt cancer.

In all cases of malignancy at least half of the thyroid gland was resected. In no instance was a prophylactic neck dissection performed. Cattell and Colcock[9] have advocated that radical neck dissection be included in the surgical treatment of papillary or follicular carcinoma. However, Crile[10], Welch[11] and Black[12] indicate that radical surgery limited to the thyroid gland is sufficient in the absence of proven metastasis to regional nodes.

Seven of the eight malignancies were of a very favorable nature. The one unfavorable lesion was a Hurthle cell carcinoma whose poor prognosis has been reported by Alrich and Blank.[13] All of the remaining lesions were classified in the papillary-follicular adenocarcinoma category. There were two papillary, two follicular, one containing papillary and follicular components, and two sclerosing adenocarcinomas. The sclerosing tumor is a variant of the papillary type which has been described by Haz-

CHART 3

Operative Techniques for Various Thyroid Lesions

Pathology	Operative Techniques					No. of Pts	Per Cent
	Bilat. Total	Bilat. Subtotal	Total Lobe	Unilat. Subtotal	Local Excision		
Nodular Goitre	10	33	6	2	2	53	44.2
Benign Adenoma	1	17	4	1	2	25	20.8
Toxic Goitre	1	17	0	0	0	18	15
Thyroiditis	4	11	0	0	0	15	12.5
Carcinoma	2	5	1	0	0	8	6.7
Diffuse Colloid Goitre	0	1	0	0	0	1	.8
Totals	18 (15%)	84 (70%)	11 (9.2%)	3 (2.5%)	4 (3.3%)	120	100

ard.[14,15] Long term cure rates in the range of 80 to 94% are reported following surgery for resectable papillary and follicular lesions.[10,11,12] Even though thyroid cancers compose only 0.5% of all clinical malignancies,[16] the favorable prognosis offered by the majority of these tumors emphasizes the importance of prompt recognition and treatment.

CHART 4

COMPARATIVE INCIDENCE OF CARCINOMA OCCURRING IN THE SOLITARY NODULES AND MULTINODULAR GOITRE

SERIES	Solitary Nodule %	Nodular Goitre %
Vansant	10.4	5.6
Payne (17)	12	0.6
Fitchett (18)	8.5	3.1
Lahey (19)	10	5.9
Crile (20)	24.5	10.9
Beahrs (21)		3.8
Cerise (22)	19.8	17.3

In this series, the incidence of carcinoma in true solitary nodules was 10.4% (3 carcinomas in 29 proven solitary nodules) and 5.6% in multi-nodular goitre (4 carcinomas in 72 nodular goitres). The incidence of carcinoma in a solitary mass compares favorably with other series reported from the Norfolk area. Payne and Strauss[17] recorded an incidence of 12% and Fitchett and Chalkley[18] an incidence of 8.5%. Chart 4 compares these statistics with the wide variations found in the literature. Malignant changes in solitary nodules ranged from 10% to 24.5% and in nodular goitres from 3.8% to 17.3%.[19-22]

The difficulty in accurately recognizing a true solitary nodule prior to surgical exploration was no exception in this series. Of 63 patients diagnosed preoperatively as having a solitary mass, only 46% (29 patients) were found to have a single nodule at the time of surgery. However, in most instances a large colloid cyst in a small nodular gland was the cause for this misinterpretation. Regardless of this fallacy in clinical diagnosis, the high incidence of carcinoma in the solitary nodule and the 10% incidence of carcinoma developing in a benign adenoma reported by Ackerman[23] completely warrant an aggressive approach toward the solitary thyroid mass.

The etiology of the various pathological states which occur in the thyroid gland remains obscure. Hamolsky and Freedberg[24] have reviewed the complexity of thyroid function. Cope[25] has described how experimental production of continued hyperplasia in the thyroid gland can duplicate the entire sequence of hyperplasia and the variety of neoplasms including malignancies. This confusing problem is compounded by the finding of more than one abnormal pathological change in the same gland. Chart 5 tabulates the associated pathological states demonstrated in this series. Both carcinoma and true adenomas were present in nodular goitres, diffuse toxic goitres and in glands containing thyroiditis.

CHART 5

OCCURRENCE OF MULTIPLE PATHOLOGICAL LEGIONS IN THE SAME THYROID GLAND

MAJOR LESION	ASSOCIATED PATHOLOGY		
	Nodular Goitre	Toxic Diffuse Goitre	Thyroiditis
Carcinoma	4	1	2
Benign Adenoma	3	2	1
Hyperthyroidism	3		

Morbidity

No deaths occurred in the entire series over the three year period. No major complications were encountered. Confinement in the hospital following thyroidectomy averaged five days. More than half of the patients (68 patients) were discharged by the fourth postoperative day. Only 11 patients remained in the hospital longer than one week.

Summary and Conclusions

The surgical experiences of a consecutive series of 120 private patients treated for thyroid disease have been reviewed. Emphasis has been placed on the pathological findings and, particularly, the incidence of carcinoma. The surgical management of the various pathological entities has been discussed. The absence of any operative deaths and the rapid postoperative recovery demonstrate the safety in operating upon the thyroid gland. Surgery continues to offer an extremely satisfactory method of treating most aspects of thyroid disease and remains the treatment of choice for any suspicious thyroid mass.

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The Emergency Room

How To Cope With This New Challenge

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It is obvious to all that the hospital emergency room is becoming increasingly important in American medicine. Carefully made, long range plans are needed to keep abreast of this changing situation.

THE INCREASING NUMBER of articles about the Emergency Room in the public press and medical journals is definite evidence of the awareness of both public and profession of the ever-growing and changing role this department plays in this Nation's medical care. Most of the articles concern themselves with statistical figures and the ways the different hospitals are trying to cope with skyrocketing patient loads. This article will not attempt to add another series of statistics about what is happening in OUR Emergency Room and thereby try to convince the readers that something big is going on. That has already been proven. The purpose of this effort is to take up where others stopped, and in doing so try to make those concerned with the best medical care for our patients aware of the deluge that will come to the Emergency Room in the future, and thus enable those in charge to stay ahead of the problem rather than get caught in it.

This cannot be done without a few figures, and for those I shall draw from the experiences of our own Emergency Room, which are typical and representative of any community hospital caught in the same squeeze. They only serve to underline what others have already stated before and emphasize the need of a completely new approach to this not-to-be-stopped development.

Ours is a suburban community hospital like hundreds of others all over the country struggling with this new challenge. I might add that it had a slight advantage from the start since it opened its doors only about four years ago, and the original plans included a certainly reasonably sized, modern, well-equipped layout, at least for the number of beds (300), and represented what at that time was a progressive line of thinking. It is located in the heart of one of the fastest-growing counties of the east coast and many major and super highways surround it.

After a few months of rotating duty by the staff members, we started with two part-time physicians covering the weekdays and a group of young licensed physicians who worked the night and weekend hours on sometimes overlapping shifts of usually twelve hours, paid on a per hour basis. This set-up is, of course, dependent on the patient load. Continuing growth can easily lead to departments with visits numbering several hundred a day, and in such a situation it would be necessary to have separate surgical and other specialistic services, staffed by the different specialists. For the time being and for the future, except perhaps for the extremely large (teaching) institutions, general men can and should be running the place.

In order to attract qualified men, it has

to be made financially attractive. This can be done in a number of ways. Several systems already existing, most of them based on a basic salary plus percentage per patient or service rendered, have proven to be quite adequate. The financial angle is especially important in the smaller hospitals with inadequate patient loads. For those a full-time daytime physician seems the best solution, with the whole staff being on call on a rotating night and weekend roster.

The oft-stated requirement that the Emergency Room doctor should not have his own private practice is in my opinion not important at all. One man can do only so much by himself, and I would even go so far as to offer a suitable man office space inside the hospital, separate from the Emergency Room, where he could see his own patients, all this to be covered by proper rules and regulations and the agreement that the emergency case will receive preference above those in *his* waiting area. To all those who may be afraid that this man will take away their bread, it should be obvious (1) that he will be very limited as to the number of cases he can see outside his duty in the Emergency Room, (2) housecalls during that time will be impossible, and (3) patients themselves usually shy away from someone who can give them only part-time service. Besides, I cannot imagine that when the staff of a small hospital decides that a full-time daytime physician is needed in their Emergency Room, this one man can do enough damage to their combined practices to bankrupt them all, or even slightly influence their income, with his out-of-necessity rather limited possibilities. If this were true, the area simply is not big enough to support such an Emergency Room set-up.

Our statistics, as they are elsewhere, are quite convincing. Table A shows Emergency Room admissions for the years 1961 through 1964; these figures do not include out-patient visits, nor all ambulance and most 5 P.M. to 9 A.M. regular admissions, all of which are handled by the Emergency Room desk. This means that the grand total patients easily outstrips the rest of the whole hospital by 2 to 1.

In Chart B will be noted a steadily rising

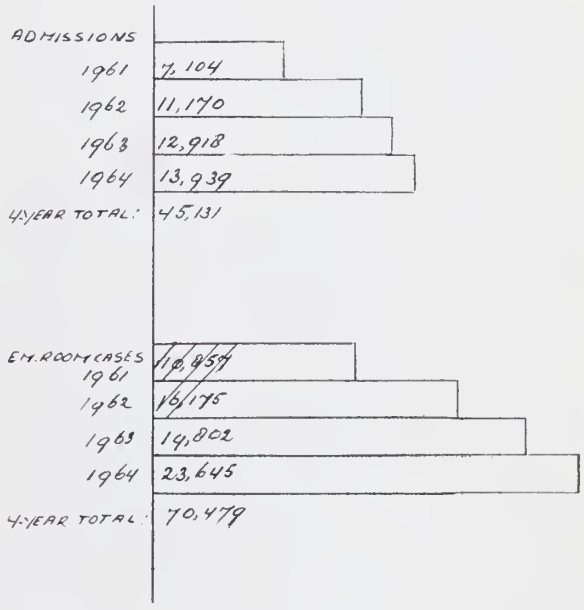


Table A

line with peaks during the summer seasons. A similar chart can be made on a per day basis, showing the visits during the different nurses' shifts:

12 P.M.-8 A.M.	8 A.M.-4 P.M.	4 P.M.-12 P.M.
10%	35%	55%,

or on a weekly schedule:

Monday 8 A.M.-Friday 12 P. M.	Weekend
55%	45%.

A division by age groups shows the following:

Below 10	10-20	20-50	Above 50
22%	18%	50%	10%

varying somewhat with the seasons, the summer vacation months shifting the patient load slightly to the left.

During the year 1964 we saw a little

more than 600 patients with various ingestions, overdosages, as follows:

1. Aspirin and related drugs 200 (mostly small children)
2. Miscellaneous toxins, such as household preparations, gasoline, insect repellents, etc. 190
3. Drugs of different nature, including deliberate overdoses 210

rather heated sessions with the staff on this subject, and the original rules were strictly outlined to avoid this type of friction. Over the years it has been proven unquestionably that the majority of cases in this growing area actually did not have private physicians and up to the moment a problem presented itself they had never bothered to look for one. Others insisted that the Emergency Room doctors take care of them and

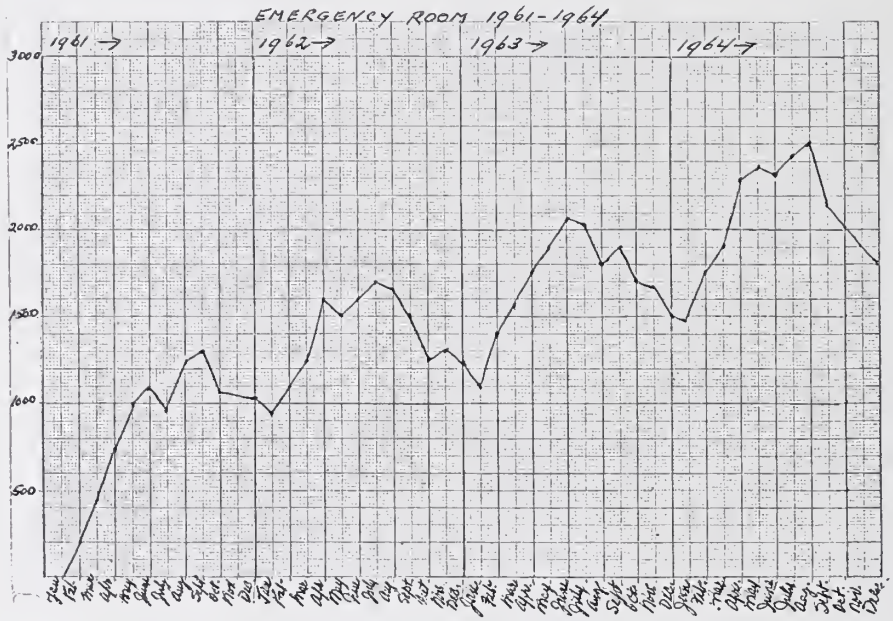


Chart B

The following is a breakdown into the types of cases which were presented:

Injuries—60%
Medical—33%
OB-Gyn—7%
Psychiatry—Less than 1%

This fluctuates somewhat with the seasons.

The Medical figure may be slightly misleading in OUR set-up, since it had been originally stipulated that in order to avoid the oft-heard accusation that the Emergency Room was competing with private practice, we did direct patients to private physicians when it appeared that the problems presented were not really emergencies and could be handled at an office that same day or even the following day. As in most Emergency Rooms, we used to have some NOT bother their own doctors for a variety of personal reasons.

At times, however, staff members did feel that they should have been notified and often this resulted in long letters to the Administration or the Executive Council, many times without even checking with the Emergency Room record and/or doctor. Since the Emergency Room (and this is important) had no representative in this highest committee, in spite of the fact that it handles more than twice the number of patients than all the other departments combined, it usually took long and painful hours of too many people to investigate and solve the complaint. Ironically, in several instances it turned out that the complaining doctor was more attached to the patient than the patient was to the doctor, as a

glance at the Emergency Room admission sheet would have shown. One slot on this form shows the name of the private physician, something the clerk HAS TO inquire about.

But mistakes have been and will be made in spite of our efforts. Gradually, however, the attitude of the private physicians has been changing, and it happens more and more that the staff doctors sign out, through their answering services, to the Emergency Room instead of to their colleagues, and thus it becomes increasingly difficult to decide which doctor wants to be called, and more so to send patients away even for a two-days' old sore throat. By accepting those, the Medical percentage will increase somewhat. The old rules still stand but urgently need revision.

Of course one can subdivide the *injuries* and *medical* cases into a great variety and detail. I would like to mention only that the greater majority of *injuries* consist of bruises, sprains, contusions and minor lacerations. A rather small percentage represents major injuries, including fatal ones, and burns, as well as such strictly surgical problems as perforated ulcers, etc.

The *medical* cases cover an equally wide field, of which the coronaries occupy a fairly large share, but with an ever-increasing number of minor complaints consisting of colds, sore throats, nausea, backache, etc.

The *OB-Gyn*, although relatively small, is still maybe a little bigger than might be expected, but this is due to the fact that our hospital has a "clinic", whose patients are usually seen by the house staff in the Emergency Room, outside regular hours. The rest, usually the most common Gyn problems, with an occasional walk-in OB or unexpected delivery, are evaluated by the physician, although we are happy to be able to call on the particular resident for consultation, and I might add that recently we have this added advantage in the other major departments also.

Psychiatry is luckily a minor problem in number of cases seen. However, whenever a psychiatric problem presents itself, it is always a major problem for the Emergency Room. Our hospital happens to have about ten beds, officially called the psychiatric ward, for minor, non-violent, mentally disturbed individuals, obviously grossly inadequate to handle this county's patient load. Moreover, of all the physicians on call in the different departments, only the on-call psychiatrists have the privilege of refusing the case when called upon, and they often use this privilege, which leaves the patient and the problem right in the Emergency Room, sometimes for hours and hours.

I do not necessarily blame the department for this since we all know how immense their task is, and their physical presence does not automatically solve the problem. Many times the type of case simply cannot be handled in our hospital, commitment to a state institution hundreds of miles away is a difficult, long and touchy process even without the transportation involved, and more often than not the patient or his relatives shy away from this almost final judgment. The states and psychiatric departments all over the country are working on this, but it still leaves the patient in the Emergency Room, often hard to manage or restricted to an examining room, walking or screaming all over the rooms, disturbing the already emotionally charged minds of all the other patients and their relatives. This, again, needs urgent attention and solution.

The above obviously adds up to the fact that the time when the Emergency Room was looked upon and handled like a kind of stepchild or appendix of the Surgical Department is over—*Definitely and Forever.*

How to Run an Efficient Emergency Room

One has to start with its physical plant, which needs careful study and planning.

This should include a proper entrance, with (1) an easy aproach for ambulances so designed that more than one ambulance can maneuver, (2) plenty of parking space for official vehicles, properly marked or guarded, if necessary, to avoid other visitors occupying it, (3) a sidewalk that allows stretchers and wheelchairs to roll off and on without being lifted, (4) doors that open automatically and can be locked easily, and (5) an entrance hall that can handle arrivals and immediately absorb relatives and bystanders in an adjacent waiting area, without cluttering the space in front of the admission desk. All this is just as important as the actual treatment area. The latter, of course, requires all the consideration and advance thinking modern medicine has to offer. Finally, there should be plenty of room for expansion.

It may come as no surprise to anyone reading this and interested in this problem in general, that at this moment the first extension of our hospital has been completed, and this extension is a brand new Emergency Room. This is in spite of the fact that the whole hospital is in crying need of more beds. Already a new addition of 300 beds, which will double its size, has been approved and will be built in the near future. But long before the need for more beds was recognized, it had been obvious that first of all the Emergency Room needed larger quarters. The new wing consists of a circular building and looks good on paper. An even bigger problem will be how to run it. As said, the days of the appendix of the Surgical Department are over. As shown above and in many articles elsewhere, the Emergency Room is becoming now and will be a kind of general medical department, maybe with a little emphasis on injuries, but ultimately functioning as a supplement to the General Practice, hopefully living in symbiosis with the general practice and thus serving as a much-needed and helpful safety valve to the ever-dwindling supply of GP's, thereby serving both the public and the profession.

How to run it needs careful consideration. The man in charge should be a mature, well-trained general man, and if the patient load permits it there should be a group of equally well-trained general men to cover it on a 24 hours a day, seven days a week basis. Many hospitals already have such coverage, as can be read in various articles, with the close-by Alexandria (Virginia) Hospital and others as quoted examples. But it is not enough to accept this line of thinking. Acceptance means full recognition by both the Administration and the whole staff, and this should lead to a number of consequences. A glance at the patient load and a comparison with what the other departments do shows that the major point of contact between hospital and community is or will be the Emergency Room. And an intense contact it is. The majority still come with some type of emergency. Whether it is an injury or a belly-ache of ten days' duration, when J. Doe (finally) decides he needs medical attention, he needs it NOW. To him it IS something urgent, and the way he is taken care of can make or break the name of the hospital. And he never arrives alone. There are always friends and bystanders, some of them worse off than the victim himself, and opinions and emotions flare. It is true that on the floors, during visiting hours, the public can see their hospital in operation, with nurses and doctors all busily doing their duties, but there everybody has already accepted the fact that the patient is sick. He is lying in bed, and hopefully whatever can be done for him has been or is being done. In the Emergency Room all this still has to be proven and then done. The need for attention has suddenly arrived and both patient and surroundings have not yet adjusted themselves to their unexpected disaster. It is always the dissatisfied customer who is loudest in writing nasty letters or complaining to whomever he thinks is important enough to share his grief. Any community hospital that respects itself and sees its duty is especially sensitive to the

public's opinion, and it needs no discussion that the most sensitive and at the same time most openly exposed area to this opinion is the Emergency Room.

Thus, recognition of all this requires representation in the hospital's highest council—and all-out efforts by the administration and nursing staff to provide the best available full-time nurses, orderlies and clerks. However, it is not possible to run it properly, even with the best manpower, if they are not guided by a set of clear rules and regulations approved and agreed upon and supported by the whole staff. These rules should include:

1. Limitations on what procedures will and can be done in the Emergency Room, including specifications about such things as I and D's; and pleural, lumbar and peritoneal punctures. If allowed on an out-patient basis, a special room should be set aside for them to avoid both contamination of other rooms and prolonged occupation of space available in the room (the same holds true for transfusions).
2. Charges for whatever may be done, covering the price of drugs, trays, number of sutures, O_2, suction, etc., also the physicians' charges, with possibly an increased basic charge for any visit during the night shift. This is an accepted practice everywhere, including the medical profession, and it would serve as some deterrent for those people who, with complete lack of consideration for their fellow men's time, keep coming in at 3 A.M. because of a sore throat of five days' duration and demand immediate attention.
3. Rules about when to call in consultants, plus an official rotating schedule of consulting staff members who will HAVE to honor the request, plus the requirement for those on call to be available and reachable within a set time or be properly covered by other men.
4. In order to apply the rules and to be familiar with changes or interpretation, the physicians ought to meet regularly at least once a month, so that there can be no mistake that they set up a uniform front.

Thus, if one follows the arrival of the patient and his entourage of relatives, friends, often ambulance drivers, plus the police, there is only one immediate need—a smooth and efficient reception. That is one which promptly separates the patient from his followers, with perhaps the occasional exception of one close relative, who will have to leave when actual treatment starts. This can be accomplished by a properly designed entrance with adjacent waiting room. A record must be made, sometimes directly from the patient, often in spite of his deplorable condition including the not rare occasions when he is covered with blood. The personnel department should be aware of this, and in order to avoid an ever-continuing turnover of clerks, should actively seek out and train only the best of available manpower, not only so far as their efficiency with the typewriter goes, but equally as competent in their ability to keep their heads cool, not becoming emotionally involved with the case and being able to control themselves no matter how charged the party on the other side of the counter gets. There is no doubt, not just any clerk will do, and it would be unfair to blame them if their personalities cannot take this. Only the all-round best can do it, and they belong in the Emergency Room and not in the upstairs medical records or similar department.

To help them do their job most efficiently, they need a record that can be filled out fast and clearly, without unnecessary lines or spaces. Depending on the number of cases, there should be more than one clerk and, if possible, if there is an I. D.

number coding computer type system in the administration, some arrangement should be worked out that the desk does not have to wait many minutes before a patient can be checked, identified and the fact verified that he does not have an "old" number, meaning a previous visit. For this it is advisable that the Emergency Room desk, medical records division or the coding system are close together, and/or maybe maintaining a daily list of numbers to be checked later at the record or data processing department. This holds true also for the so-called admission desk, since most after-hour and many daytime admissions enter the hospital through the Emergency Room entrance. They should be together or be one. Every attempt should be made to recognize the importance of the clerks and to avoid at all costs a bottleneck right there where speedy processing of the case is essential for the whole operation.

Once the case is inside, the professional staff will take over. Depending on what is presented, they may need outside help, which may consist of lab work, EKG, x-rays, consultants, etc. X-ray and laboratory should be close by and should be properly staffed 24 hours of the day. Preferably x-ray should make the developed films available promptly without the necessity that the doctor on call has to walk half a mile, many times over, to find out if the patient has been x-rayed, if the film is ready, etc. There should be at least one outlet for taking portable films, a proper number of viewing boxes, and the films brought there after development. An EKG machine should always be present and, in this day and age of cardiac massage and resuscitation, a shock and pace-maker unit, and even a simple form of EEG apparatus should not be missed in any Emergency Room that considers itself grown-up and up-to-date. It is beyond question that both doctors and nursing staff should be adequately trained in the use of such machines with a proper emergency call system to back them up, tried out and in effect all over the hospital.

This brings in the nursing department. Here again the least nervous, best-trained nurses are just good enough. At all costs, attempts should be made that during the peak hours, which, as the above figures indicate, are between 4 and 12 P.M. and on weekends, those nurses are working and NOT the part-time help. As much as the hospital needs these workers, too, it is at the peak hours that thorough knowledge of policies, of the physical set-up and location of equipment is essential for top efficiency. The doctors are too dependent on the nurses to be given part-time help during the hectic rush hours, especially if the physicians themselves are just weekenders and everything depends on the efficiency of their helpers, and that includes the orderlies who cannot be missed at any time. If necessary, and it probably is, this coverage should be made attractive by financial rewards.

If there is a house staff of interns and residents, there should be a definite understanding as to their participation with and in the Emergency Room. There is no question that there is a world of learning to be had in our department, and there is also no question that we would sorely miss the help of the house staff if it should be taken away. But there must be a clear agreement with the teaching staff. Without such agreement it will be a haphazard affair, depending on the eagerness, laziness, self-confidence and what not of the Emergency Room doctor and vice versa the interns and house staff. Without agreement and rules along this line, the result will be detrimental to both the Emergency Room and house staff.

Of course, there are many angles and fields not mentioned, especially so since the Emergency Room nowadays covers the whole spectrum of modern medicine. Besides, certain problems show themselves more in certain areas than in others. The necessity of permanent police protection is one among others. Medicine has been ex-

posed these days to a variety of criticisms, among others that it is often one step behind the actual happenings in its social world. The purpose of this article is an attempt to help open the eyes of administrations and staffs of hospitals to an awareness of the deluge of people that WILL flock to their Emergency Rooms. This development is still in its infancy, but if not recognized and adequately planned for ahead of time, the result will be disaster for the hospital and its Emergency Room.

For the physicians staffing the Emergency Room, it should be obvious that their particular activities are developing into a distinct field of medicine of its own, and the time may well have arrived for them to organize their own society, so they can meet and exchange ideas and experiences.

The following is a summary of requirements to meet the challenge head-on:

I. A physical plant, carefully planned and equipped, with unlimited expansion possibilities, closely connected with record department, laboratory and x-ray.
II. A mature, well-trained staff of general men, assisted by equally well-trained clerks, nurses and orderlies.
III. A set of well-understood rules and regulations covering all procedures, approved and backed up by the staff and administration, kept up-to-date and uniformly applied by means of regular meetings of the Emergency Room staff.
IV. Representation of the Department by its Chief in the Executive Council of the hospital.
V. A system of financial arrangements, with approved charges, to make it an operation without loss to the hospital and attractive to the staff.
VI. A proper contract for the Emergency Room staff covering liability insurance, vacation, sick leave, and time off for meetings.

Fairfax Medical Center
Fairfax, Virginia

Film and Self-Rating Scale on Measurement of Depression

"THE MEASUREMENT OF DEPRESSION" is a film depicting the development, validation, and use of a scale for the quantitative measurement of depression.

The scale was designed by Dr. William W. K. Zung, Durham, N. C., psychiatrist. Although initially devised for use in psychiatric research, it readily lends itself to the general practice of medicine where most depressions are first encountered.

The film (16 mm., sound and color) is designed for medical educational purposes at meetings of hospital staffs, county societies or specialty groups. Running time is 22 minutes. The self-rating scales, available in quantity for use in office practice, come complete with full instructions.

Both the film and pads of the self-rating scale are available free upon request from Lakeside Laboratories, Inc., Milwaukee, Wisconsin 53201.

The scale consists of a list of 20 statements expressed in the common language of the patient. The statements comprehensively delineate widely recognized symptoms of depression including disturbances of mood, biological and psychological function. Testing and scoring patients usually requires less than five minutes.

Overall Aspects of Weight Control

C. M. G. BUTTERY, M.D.
Fairfax, Virginia

THIS STUDY is based on the last 200 patients treated for obesity as their primary complaint. Results are tabulated and form the basis for the following discussion of weight control. Over the last year the number of failures in treatment have diminished as the approach has become more consistent.

The overall approach includes the psychological, physical, dietary and medication aspects of weight control. The patient should aim to lose two and a half pounds per week with a maximum of four pounds per week loss as long as necessary to reach the desired goal.

The patient's body image is important. After all, why does a patient want to lose weight to start with? His body is gross. In the case of females they are well aware of the figure of the "bunny girl" or the "playboy" girl which men admire. Everybody wants to be admired and even though women may not admit it they want to be physically attractive to men. In the male it is more the realization of how poorly the body behaves when it is fat. The excess of women over men in this series demonstrates this in addition to the fact that women are more prone to obesity than men.

The patient rarely defies you to get the weight off but does come in expecting to fail to lose. You have to gain rapport before he does lose. These patients have all tried the diets in the Ladies Home Journal and Readers Digest, etc., so it does not help to tell them to "push away from the table" or "go follow this diet" or "take this pill". These patients have to have supportive psychotherapy to lose weight. They are frequently anxious, often depressed and sometimes combine anxiety and depression. Many are postpartum and premenopausal. Postpartum is the most frequent time of life for women to gain weight when they are fearful of another pregnancy and pain of labour, and often in restrospect thinking they have had a harder time than they actually had so that they can get secondary gain for the "pain suffered" from their husbands. They subconsciously start eating to make themselves sexually unattractive so their husbands will not get them pregnant again. They are ambivalent in not wanting to drive the husband to a mistress and lose his love. They then become depressed thinking they are losing their husband's affection, losing out on enjoying life because they have to look after the children and in their resulting anxieties they spend every spare moment nibbling.

Start by talking to the patient and get a history of the weight problem. When did they first become overweight? At home or at school? Before or after pregnancy? Were all their family big eaters and fat? How many of the family had weight related diseases such as heart attacks, emphysema, strokes, arthritis, etc.? What have they done so far to reduce? What medications have they already tried and what effect did they have on the patient? How do they spend their day? Do they love their husband and children and do they feel their family loves them? How often do they have crying spells?

Now make a systematic inquiry. Does the head hurt? Do they have dizzy spells? Do they have pains in the neck and shoulders due to the weight of their arms? Are they short of breath? How many stairs can they climb? Do they get palpitations? How much do they smoke? How much do their

Presented at the annual meeting of The Medical Society of Virginia, Richmond, October 1965.

joints hurt? Are they sexually happy and if not why not?

All the history should be phrased in such a manner that the patient will tend to give positive answers and then you make definite noises of deprecation such as Ha! Ha! or Hmmm! and be surprised when they give a negative reply, intimating by your manner that a positive answer is only just a short way away unless they realize this and follow your advice.

If the patient suggests that all the weight is in their "family" or their glands, make an estimation of their thyroid activity with the "Photomotograph" and if there is a suggestion of abnormality follow this up with appropriate specific tests. Once you have the normal graph you can show this to the patient as *"scientific proof"* of their thyroid action and state that from this you *know* how many calories a day they eat to maintain their weight at its present level and that you know to the ounce how much weight they will lose each day if they follow your instructions. You are thus preparing them subconsciously to carry out your directions.

This is the time the patient will tell you how little they eat yet someone else they know who eats three times as much is as thin as a rake. You counter this ploy with the fact that the patient is an extremely good assimilator and gets so much more benefit from so much less food that they will have to follow your directions even more strictly.

You should arrange to perform a thorough physical at the first or second visit including EKG, heart size, CBC, urinalysis, blood sugar and BUN. With such an examination you are bound to find some abnormalities which you can use to reinforce your stressing the patient's need to lose weight especially from the view of the illness it can *prevent* in the future. (In the patient 30-50 pounds overweight you will usually find emphysema and polycythemia.) The manner in which you acquaint the patient with these facts is important. They should be presented as abnormalities which can be reversed and ensure many useful productive years, not as dire abnormalities which will lead to a quick death. These patients are anxious and can easily be driven into a deep depression and even to attempt suicide. Stress that the overweight does *not* mean that they are at death's door but that they are choosing a costly slow method of committing suicide which may take 15 years or more and that by getting their bodies into good shape they can give themselves an extra 30-40 years of healthy enjoyable living.

Having achieved good rapport with the patient, reinforce your ideas about a positive approach to weight control and tell him to forget about counting calories. Give him a standard 800 calorie diet with no substitutions allowed. Diet free drinks and water may be used *ad libitum*. The diet should allow the patient to lose at least three pounds the first week. This initial weight loss is extremely important to the patient's morale and having found this easy they will now know they can keep it up as long as necessary. Let the patient understand that this is something they have done, albeit with your help. Keep building their subconscious support for losing weight. Less than 5% will fail to lose the first week. If they don't lose make no doubts about your positive approach. You know the patient failed to follow instructions. Be controlled at losing your temper and then simmer down and be surprised that the patient thought he or she could fool you and treat you like an idiot; this will nearly always make the patient mad enough to say to themselves "so he doesn't think I can do it—I'll show him!"; and at the next visit they will have done better and you can accept their apologies for having tried to test you out. Let them know that you knew they had tried substitutions but that you didn't have them on the diet because you didn't want them there. In fact you know they could do

perfectly well without any food but you are letting them have a little so that their stomachs "don't shrink up completely." You are letting them get their energy from their own fat deposits and you realize they are addicted to food like a smoker to cigarettes and an alcoholic to liquor.

When you give the patient the diet tell him this is a low carbohydrate, low fat, high protein diet and that as the body does not store all the vitamins needed you will give him a supplement to help avoid feeling weak. You know help will be needed to get adjusted to the diet or even until the goal is reached and it is necessary to give an anorexient. I have found Preludin® (phenmetrazine) the most satisfactory given as 25 mgm one hour ac tid.

At this point the patient's mental status must be evaluated. Initially it is necessary to start the patient on a small amount of tranquilizer to remove the excessive lift they often get from the anorexiant. I use 10 mgm of Librium® tid. The patient should be told the purpose of the Librium and told to adjust the dosage as necessary by cutting down to one capsule daily or increasing to five daily as necessary depending on whether they get groggy from the medicine or experience too much anxiety or sleeplessness. About 10% can discard the Librium completely after the first three to four days. They must be warned that they will have withdrawal symptoms from eating less and not to be alarmed but to use their Librium to help them adjust. If they work around machinery or vehicles they should stay off work initially until they get adjusted to the dietetic regimen. If the patient is depressed rather than anxious they should be started on Pertofrane® or Aventyl® in addition to, or instead of, the Librium.

Explain that the less the patient puts in the less they will get out and that they can expect to get constipated and strain and develop hemorrhoids if they don't take prophylactic care. Give a fecal softener such as Dialose® with each meal and encourage increased fluid intake to allow them to have two or three soft movements a week.

The patient should return at the end of one week for re-evaluation. His feelings, anxieties, and pain and aches should be reevaluated, the blood pressure rechecked and medication and diet adjusted to maintain a steady weight loss of two and a half to three and a half pounds per week. Twenty per cent of the patients will get by on one or two Preludin tablets daily and one Librium daily while others will need a full or augmented dosage. Some patients will need a diuretic as they have early congestive failure with dependent edema.

From this time on they should come back at two week intervals until they achieve the required weight loss, to be praised or disciplined, as necessary. After reaching their goal they should come back at one month, six week and then three month intervals for two years to allow them to increase their basic diet while maintaining a steady weight. By this time they should have learned good dietary habits and be able to maintain their weight by themselves.

Obese patients lack the will to discipline themselves or they would not be fat. You must accept the fact that you will have to be a disciplinarian if you want to succeed in helping the patients lose weight. You must set a goal and accept nothing less than the attainment of this goal. You must learn to lose your temper and regain it, to be mean and pleasant, to be sorrowful in the way the patient lets you down after you trusted him. I can only think of one patient who left me because I insisted on her accepting my discipline or going elsewhere. A number of patients once they start losing successfully will go off and follow your instructions by themselves and you will hear through the underground that they actually have lost their weight. There will be a number of patients that are psychotically

overweight and they should be pruned out early in the program because they cannot be helped in the office and would be precipitated into an acute psychosis. Patients have repeatedly told me after they reach the weight that if it hadn't been for my discipline they would never had lost; as no one else bothered to "cuss them out" and they thought that if the doctor didn't care why should they bother.

Results

TABLES DEVELOPED FROM 200 PATIENTS USING ROYAL MCBEE PUNCH CARD SYSTEM

Male patients 35					Female 165				
Age:	0–19	20–39	40–59	60+	0–19	20–39	40–59	60+	*Totals*
No.	1	25	5	4	7	81	67	10	200

Final Results	*Male*	*Female*	
Excellent	14	75	89
Improved	12	45	57
Poor	9	38	47
Failure	..	7	7

FIRST WEEK			FIRST MONTH			FIRST THREE MONTHS		
Wt. Loss Lbs.	*Male*	*Female*	*Wt. Loss Lbs.*	*Male*	*Female*	*Wt. Loss Lbs.*	*Male*	*Female*
0	1	12	0–2	..	17	10–14	2	4
2		25	3–5	2	6	15–20	1	6
3	4	14	6–8	.	11	20–24	.	6
4	2	10	9–11	2	28	25–29	..	8
5	4	16	12–14	3	30	30–34	..	26
6	3	16	15–17	3	30	35–40	6	11
7	4	16	18–20	12	21	41–44	3	4
8	1	13	21	2	4	45–49	3	6
9	3	10	22	3	3	50–60	..	13
10	3	16	23–25	4	7			
11–12	..	8	26–27	..	5			
13+	6	11	28+	..	5			

Definitions

EXCELLENT. Steady weight loss with maintenance of weight loss without medication over 12 month follow up.

GOOD. Loss of weight to within 10% of suggested ideal weight or failure to return for final assessment and follow up to see that weight remained stable.

POOR. Failure to lose at least 40% of indicated weight loss and failure to return for necessary follow up care.

FAILURE. Failure to lose, or else gain weight, or failure to return after initial visit.

Discussion

This is limited to the three month weight loss column as others are self explanatory.

Thirty-seven females did not keep up the three month course of therapy or return for necessary follow up care—18.5%.

Thirteen did not return for three month check-up but had lost to within five pounds of ideal weight when seen at two months —6.5%.

Sixteen had lost requested amount of weight before three months and are not included in this table as they were not still losing weight at this time.

The three month column includes only those patients that are still losing weight at the end of three months. All these were in the excellent or improved category. Many of those in the improved category will shortly be in the excellent category but still have more weight to lose and need longer follow up care. Over 50% of those in improved category had lost 75 pounds or more and had come within 10% of ideal

weight at time of last visit but had not followed up on quarterly recheck visits as requested but in most cases are known to have kept their weight down.

Those with less than 20 pounds weight loss at end of three months had lost poorly or gained during first four to six weeks but finally accepted the necessity of the discipline of the regime and had started to follow diet as requested and should eventually fall in the improved or excellent category.

Excellent + Improved = 146 patients = 73%

Total Failures 7 patients = 3½%

Summary

At least 75% of patients can be helped to achieve acceptable weight levels. The majority of the population die or suffer permanent disability from diseases associated with overweight. Prevention of disability is one of the greatest benefits that the physician can give his patients. Those people who have been overweight and achieve successful control of their weight remain firm appreciative patients. The rapport you set up with them during their weight losing schedule sets up a habit for future acceptance of advice on other forms of preventive care before the diseases occur and allow the patient to enjoy health and mental stability for many years to come.

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Animal Research in Danger!

The "animal protectionist" groups have mounted the greatest offensive against the effective use of animals in biological research and teaching that has ever been attempted in the United States. Today in Congress there are bills to which about 40 congressmen have attached their names, dealing with procurement, housing, care, and use of experimental animals. The present mood of Congress is to accede to the demands of the vocal animal protectionist minority and pass some sort of legislation. Every physician and biological scientists who has a sense of public responsibility should be informed of the issue and communicate his views to his congressman as to public harm that might be done by unwise legislation.—Maurice B. Visscher, Ph.D., M.D., in *Modern Medicine* (34:87), March 14, 1966.

Clinicopathological Conference . . . .

Hip Pain and Limp In An Eight Year Old

Prepared and Edited by
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DISCUSSANTS:

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Richard Lester, M.D., Professor and Chairman, Department of Radiology, formerly of Medical College of Virginia, now at Duke University Medical Center
Page Hudson, M.D., Assistant Professor, Department of Pathology

Clinical History

This eight year old female was admitted to Medical College of Virginia Hospital on March 17, 1965, for evaluation of a destructive lesion of her left hip.

Approximately 2½ weeks before this hospital admission, the patient was noted to be limping on the left lower extremity. She complained of some slight tenderness in the left hip region after excessive play activities. She had been examined by her pediatrician who found her to have some limitation of internal and external rotation of the left hip, but her physical examination was otherwise entirely negative. Limitation of activities and observation were advised at that time. The patient continued to limp, and because of the continued limp and pain in the left hip, she was sent for x-rays. These x-rays showed a destructive lesion involving the anterior superior aspect of the acetabulum. The x-rays did not show a definite break in the cortex of the outer wing of the ilium. Because of the above x-ray findings, the patient was admitted to the hospital for further evaluation and biopsy.

Physical examination on admission revealed a well-developed, well-nourished, healthy girl, eight years of age, who walked with a decided limp on the left, and who guarded the left hip in its full movement, particularly internal and external rotation and abduction. Adduction, flexion and extension of the hip were not restricted. BP, temperature, pulse and respirations were all entirely normal.

Laboratory studies: The urine was yellow, clear, acid and had a specific gravity of 1.020. Tests for albumin, sugar and acetone were negative. Miscroscopic examination revealed 0-2 WBC/hpf. The hemoglobin was 13.2 gm. per 100 ml. blood, WBC 10,800 mm^3 with a normal differential. The RBC was 4,280,000. The serum calcium was 10.3 mg., phosphorus 4.9 mg. per 100 ml. blood. Alkaline phosphatase was 3.5 Bessey-Lowry units. Total protein was 7 gm. with albumin 3.5 gm. per 100 ml.

Surgery was performed on March 19th.

Discussion

Dr. John F. Butterworth III: Our protocol today concerns an eight year old female who began to limp on the left lower extremity approximately two and a half weeks prior to hospital admission. She complained of slight tenderness in the left hip after excessive activities. There apparently was no known history of trauma. She had been examined by her pediatrician who found limited rotary movement in the left hip. The remaining examination was entirely negative.

At this point and without x-rays, and I stress without x-rays, one would strongly suspect traumatic synovitis of the hip. This, of course, is the most common cause of hip limp in this age child. The lack of definite history of trauma is not of particular significance as youngsters at this age are falling down in their everyday activity so

often. They commonly cannot recall any specific incident of trauma that precipitated the problem. Often times, however, you can find contusions in the general hip area.

An early Legg-Calve-Perthes Disease, or co-called osteochondrosis of the capital femoral epiphysis, would have to be considered in this age group. It is far more common in boys, but is not a rarity in girls. The rotary limitation of hip motion, especially of internal rotation, is a very common finding in this condition, as is a hip limp. A slipped capital femoral epiphysis would be a just consideration were this child an adolescent and particularly if she had a Frohlich type body build. When this condition occurs prior to adolescence, it is usually associated with a definite episode of trauma which causes an acute slipping.

A program of conservative limited activities and observation was prescribed by her pediatrician prior to x-ray examination. She continued to limp and complained of pain. X-rays were made and showed a destructive lesion involving the anterior superior aspect of the left acetabulum. There was no definite pathologic fracture associated with this lesion.

At the time of hospitalization, her physical findings were completely limited to the left hip and consisted of pain and limitation of motion. Her limitation of motion, I feel, represents some irritation of the hip joint. Her vital signs were normal. Blood morphology and serum chemistries were normal. We, therefore, can now narrow our discussion to an eight year old female with an osteolytic lesion in the acetabulum with no significant systemic symptoms. This would be a good time to see the x-rays.

Dr. Richard Lester: The lesion is located in the lateral-most aspect of the acetabulum. (Fig. 1) It is destructive and poorly marginated, although it should be noted that there is a thin cortical area of bone at its lateral margin.

Let me first say that I know the diagnosis now, secondly, although I probably should have made the diagnosis originally, I didn't. Obviously, this is a bone tumor or tumor-like disease and I think the radiologist has a couple of particular responsibilities in this



FIG. 1: Note destructive lesion in most lateral aspect of the left acetabulum. Though poorly marginated, there is a thin cortical layer laterally.

sort of a case. One is to do a bone survey to determine whether this is a solitary lesion or whether it is one of multiple lesions. It is a solitary lesion in our patient. The other vitally important factor is the chest x-ray examination and in this case the chest films were normal.

Dr. R. Page Hudson: You said, "tumor or tumor-like condition," would this exclude osteomyelitis?

Dr. Lester: Yes.

Dr. Butterworth: You cleared up a number of questions that I was going to ask later. In an acute stage of osteomyelitis of the ilium, the bone is usually invaded throughout and not localized. Acute pain, high fever, elevated white count and other systemic findings are typical. A localized Brodie's abscess might be considered, but this is usually surrounded by an area of dense sclerotic bone. A tuberculous infection in this area would usually be associated with an infection of the hip. Since the chest film was negative we can probably exclude tuberculous bone disease. Mycotic osteomyelitis, which would include actinomycosis, coccididiomycosis, blastomycosis and sporotrichosis, I do not feel would present

the picture we have today. Actinomycosis in the pelvis is usually found from an extension of an abscess in the appendiceal area. We have no systemic indications that this child had anything of this type.

Is this lesion a metastases, a primary benign bone tumor, a primary malignant bone tumor or a developmental defect? If this lesion were a metastatic tumor, the most common primary sites in this age group would be the nervous system, the eyes, the kidneys or the hematopoietic system. Neuroblastoma is a round cell malignant tumor of infancy and early childhood which metastasizes early and rapidly. It usually arises from the medulla of the adrenal gland but may arise from any part of the sympathetic nervous system. The presenting complaint is most often abdominal enlargement and displacement of the kidney. Hematuria is common. We have no evidence to substantiate this diagnosis with the exception of the fact that we do have a lesion in the ilium which at times is a site of metastases from this tumor. There are no findings which would suggest metastases from kidney or eye tumors. Multiple myeloma can be excluded rather quickly because of the patient's age; however, the pelvis is a frequent site of lesions in older age groups. I feel that leukemia can be ruled out by the absence of generalized bone involvement, associated splenic, lymph node or hepatic enlargement. The blood picture in our patient is essentially normal.

The primary malignant bone tumor most suggested by this protocol is Ewing's sarcoma. The origin of this highly malignant neoplasm is still debatable. It arises in medullary bone in patients under the age of thirty and is most common in cylindrical bones. It is usually accompanied by systemic manifestations of fever and leukocytosis and an elevated sedimentation rate. More than 50% of the lesions are said to occur below the waist line. The outstanding symptoms of Ewing's tumor is pain. The most striking x-ray manifestation is bone destruction. The laminated, onion-peel periosteal reactions noted in x-rays are neither specific nor a constant finding. Radiographic appearance may be entirely compatible with osteomyelitis which further confuses the picture as does the clinical course which also may simulate osteomyelitis. Although this lesion is sensitive to x-ray the mortality rate is quite high. Reticulum cell sarcoma of bone presents many of the same characteristics noted in Ewing's tumor. A fibrosarcoma of bone can be excluded since it is usually associated with a soft tissue mass and is found most often in cylindrical bone. Osteogenic sarcoma is the most common primary malignant tumor of bone in children. Approximately 75% of osteosarcomas occur in the region of the knee. Of the flat bones, the ilium is most often involved. Pain is the only consistent symptom. If osteoblastic activity is significant, the alkaline phosphatase will be elevated. In our case it is not. A normal level, however, does not completely rule out this diagnosis. From an x-ray standpoint, in a lytic osteogenic type of sarcoma one would find bone destruction and I would think that at this stage the thin layer of cortex which has been pointed out would have not been present. Had this been an osteoblastic type of tumor one would expect to find the so-called sun-burst or sun-ray effect of the tumor mass. Chondrosarcoma is another primary tumor of bone which occurs in the innominate area. The majority of these lesions, however, occur in the age group of 30-50 and the x-ray findings of scattered calcification in the tumor mass are definitely lacking in this case.

Let us turn now to the benign lesions of bone. A solitary bone cyst can be found in the ilium but it is certainly rare. It is most frequently found in the cylindrical bones adjacent to the epiphysis. These lesions remain symptomless until sufficient thinning of the overlying cortex has taken place to cause pathologic fractures. Because of the location of our patient's lesion, because of the fact that she had pain and since there was no evidence of any pathologic fracture, I feel we can exclude this diagnosis. An

aneurysmal bone cyst may occur; however, there is usually a large mass. This is an expansile lesion which ours was not. A nonossifying fibroma occasionally develops from flat bone, but far more commonly in the metaphysis of long bone. Fibrous dysplasia, monostotic or polyostotic, commonly involve the pelvis. In this condition bone undergoes physiologic lysis and is replaced by an abnormal proliferation of fibrous tissue. The periosteum attempts to compensate by laying down a thin shell of normal bone on the outer surface. Large elevations appear on surfaces of flat bones and pain is produced by pathologic fracture. Frequently, lobulation can be seen on x-ray examination. We do not have this today. Cafe-au-lait spots may be found in approximately one-third of these cases, particularly with the polyostotic variety.

Solitary enchondromas are extremely rare in children in flat bone. It is characterized by roentgenographic stippling reflecting the calcific deposits. We have none in our case. A benign chondroblastoma can be quickly excluded in as much as it occurs in the epiphysis of cylindrical bone. Chondromyoid fibroma has been reported in the ilium and may be found in the younger age group. Pain is the outstanding symptom, but it usually is not severe and has been present for a long time prior to the patient's coming to see his physician. This lesion arises in the spongiosa and erodes, thins and expands the overlying cortex. The lobulated character produces a radiographic picture of septa within the lesion. Here again we have no expanding lesion so I don't feel that this is the diagnosis.

Eosinophic granuloma of bone is a disturbance of the reticuloendothelial system producing destruction of bone by a granulomatous process of unknown etiology. Most cases are seen in childhood or adolescence. Pain is present but not usually severe. When found close to joints, limp, limitation of motion and even muscle spasm may be found. It is an osteolytic process and does not cause cortical expansion nor is there apt to be subperiostial bone production. The cortex tends to melt away and sometimes the granuloma extends into the soft tissues. A few cases will have moderately elevated eosinophil count, but this is of little diagnostic value in view of the frequency of eosinophilia in children. Prognosis is good. There are two other conditions that are usually grouped with eosinophilic granuloma; Hand-Schuller-Christian's disease and Letterer-Siwe's. I don't feel that these diseases deserve serious consideration in this patient. Patients with Hand-Schuller-Christian's disease will usually show exophthalmus or diabetes insipidus. Its roentgenographic characteristics of multicentric, diffuse decalcification would not be consistent with out case either. Letterer-Siwe's disease usually pursues a fulminating course and rarely is found in patients over the age of four.

I feel that our patient has a benign lesion of the ilium, most probably an eosinophilic granuloma.

Clinical Diagnosis:

1. *Ewing's sarcoma*
2. *?Osteomyelitis*
3. *?Eosinophilic granuloma*

Dr. John Butterworth's Diagnosis:

1. *Eosinophilic granuloma*

Pathological Discussion

Dr. Page Hudson: There are three basic problems in this case as the patient presented to his physician. Dr. Butterworth explored them rather well. First was the problem of limp. My own meagre clinical experience is enough to know this is a common and an important one. The second is the problem of an osteolytic lesion in the pelvis of a child of this age and what one does from the discovery of this lesion. Is this a single lesion or are there multiple lesions? And the third problem is whatever this disease turns out to be, what are its characteristics as they will affect the patient? What is the etiology of the disease?

What is its treatment? What is its prognosis?

Our young patient was biopsied at surgery, an open biopsy, since no other lesions were found on the roentgenographic bone survey. The frozen section diagnosis "eosinophilic granuloma" made by Dr. David Borland at the operation was confirmed on examination of the permanent microscopic slides. The tissue consisted of vast sheets of cells of uniform appearance. The cells were large and had pale eosinophilic cytoplasm with large pale nuclei. Masses and infiltrates of eosinophilic leukocytes were also conspicuous. (Fig. 2) So the diagnosis was made of eosinophilic granuloma of the left acetabulum.

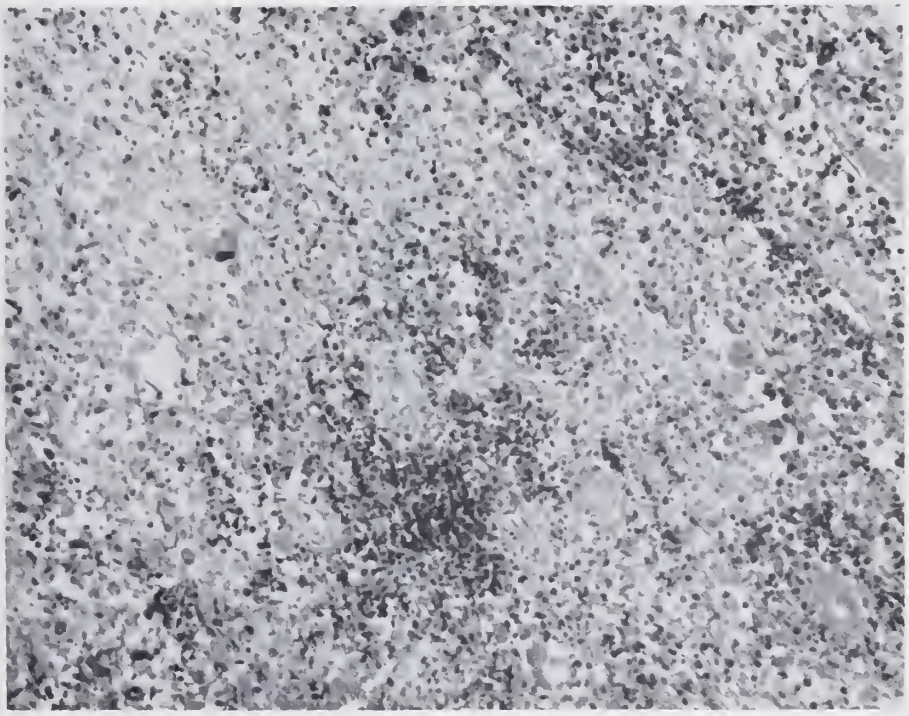


FIG. 2: Sheets of uniform large cells with pale eosinophilic cytoplasm and large pale nuceli. The smaller, dark-appearing cells in this photo are the infiltrates and masses of eosinophilic leukocytes. (100x)

If one has to have a bone disease, this is a good one to have. If it is biopsied and the diagnosis made and the patient has curettage of the lesion, he gets well. If there is x-ray therapy of the lesion and not too much, he gets well. With no therapy, he gets well too, it just takes a little longer.

The experience here at the Medical College of Virginia with eosinophilic granuloma has been very much like that seen at other institutions. There have been eight cases seen in the Surgical Pathology Laboratory since 1953. The patients' ages have ranged from two years to 17 plus one at age 34. In a series of 28 cases reported from St. Louis,[1] the age peak was in the 6-10 age bracket as was ours. The series included one over the age of 30. The location of their lesions was again about the same that we have seen here in our smaller group. Seven of the patients had lesions in the bones of the skull, seven in the femur, others scattered, rib, mandible, humerus and so forth. Two lesions were in the pelvis.

As Dr. Butterworth pointed out, there is a tendency to regard the three diseases—eosinophilic granuloma, Letterer-Siwe's and Hand-Schuller-Christian's as manifestations of the same disease. Those of you who have studied these entities no doubt have your own concepts of their relationship. There are relatively few authorities now, outspoken though they may be, who contend

that the three are merely phases of one spectrum.

As an aside, let me comment on the name of one of these diseases. Hand[2] reported what is supposedly the original case of Hand-Schuller-Christian's disease in the 1890's. Schuller[3] reported another and was followed by Christian[4] with his cases and a review, Hand[5] noted still another case and we evolved the awkward name of Hand-Schuller-Christian's disease. However, in the Transactions of the Pathology Society of London in 1865, one Thomas Smith[6] presented a four year old child that clinically had the classical findings of what we now call Hand-Schuller-Christian's disease. From his description and drawings the case was an obvious example of Hand-Schuller-Christian's disease. It is undoubtedly too much to expect that the term "Smith's disease" might replace that of Hand-Schuller-Christian.

To return to the subject, occasionally the histologic differentiation of eosinophilic granuloma from Hand-Schuller-Christian's Smith's disease is a problem. They both seem to effect the reticuloendothelial cell or histiocyte. The cell in eosinophilic granuloma contains little or no cholesterol but it is almost a standard finding in Hand-Schuller-Christian's. No lipid is seen in the histiocytes in Letterer-Siwe's disease. Histologically and clinically this latter entity is reminiscent of a lymphoma. Ewing's sarcoma, which is similar to these diseases clinically, is similar under the microscope —at least on frozen section or at low magnification. I find it very difficult to believe that the three, Letterer-Siwe's, Hand-Schuller-Christian's and eosinophilic granuloma really represent continuums of the some disease. They have at best vague clinical and morphologic similarity and I would think that there is no more connection between them than there is between brucellosis and Hodgkin's disease. Perhaps I can goad someone here into speaking up on that.

Diverse opinions are represented and presented best by those first publishing cases of eosinophilic granuloma. Otani[7,8] has contended it was a distinct disease. Lichtenstein[9,10] is the champion of lumping the three.

As the etiology of these diseases is unknown, one can speculate as to whether they are local or metabolic disorders, whether they are infectious diseases or whether, indeed, they represent a strange reaction to trauma.

Dr. Lester: This is a subject that has been a considerable interest to me. I would say that I was somewhat taken aback by your insistence that these are not three manifestations of the same disease and since you invited someone to disagree with you I would like to do so with some vigor. I think it is accepted in at least many circles that they are manifestations of the same disease, and furthermore, I think it is rather risky at this stage of our knowledge—not knowing the pathogenesis of these conditions—to exclude this possibility. Some patients with eosinophilic granuloma of bone do have a malignant course similar to that seen in Hand-Schuller-Christian's disease. Furthermore, some patients with Letterer-Siwe's disease show appearance microscopically like that of eosinophilic granuloma. This is rare, but it does occur. A number of people, myself included, believe that these diseases are manifestations of the same process which has been labeled with "Histiocytosis".

Dr. Saul Kay: This is very interesting. I was surprised that a radiologist would take this attitude. Siwe[11] himself, of Letterer-Siwe's disease, stated that these were not the same entities or different manifestations. He investigated and analyzed the so-called transition cases and showed that they were not what they were originally diagnosed to be.

We have eight cases of eosinophilic granulomas. Nothing has happened to those eight or to those reported from St. Louis[1] or from Baltimore.[12] I would like to see somebody come forth with a histologically diagnosed eosinophilic granuloma becoming more serious disease. I have not seen it yet.

Dr. Hudson: There are certain similarities, particularly clinical ones, between Letterer-Siwe's and Hand-Schuller-Christian's disease and eosinophilic granuloma, principally in their morphology. However, many investigators have questioned the transitional cases that have been reported. One case that was diagnosed originally as eosinophilic granuloma later developed lesions elsewhere in bone and soft tissue. This was considered to be an example of a malignant form of eosinophilic granuloma which had undergone transition into Hand-Schuller-Christian's disease. It was actually Hodgkin's disease which had been misdiagnosed in the first biopsy. One of the more malignant cases of Hand-Schuller-Christian's disease turned out not to be such but rather disseminated histoplasmosis.

The truth here is yet to be determined.



FIG. 3: X-ray taken six months after surgery of left acetabulum. Healing is essentially complete.

Following surgery our patient of today soon resumed normal activity. She has no discomfort or limp. An x-ray (Fig. 3) taken six months after surgery showed excellent healing.

We are very grateful to the patient's pediatrician, Dr. Walter Bundy, and her surgeon, Dr. E. B. Carpenter, for allowing us to use their clinical material for this interesting case.

PATHOLOGICAL DIAGNOSIS:

Eosinophilic granuloma of the left acetabulum.

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Diagnostic Laboratory Medicine . . . .

Atomic Absorption: A Milestone in Spectroscopy

The flame photometer is a familiar analytic tool utilized in many branches of science. Without one virtually no clinical laboratory is complete and the determination of sodium and potassium is for all practical purposes impossible. Extension of the technique of flame (emission) spectroscopy to the measurement of other metals such as calcium, magnesium, zinc, lead, etc., however, has not been too successful since its detection limits and sensitivity are not adequate for most biologic material.

Emission spectroscopy and atomic absorption spectroscopy depend upon the capacity of an atom to change from an unexcited (ground state) to an excited state with the absorption of a certain amount of energy. The conversion from the excited to ground state releases or emits energy. Such energy is detectable as absorption and emission spectra specific for each element. For example, the sodium atoms emit a yellow light when excited in a flame before returning to the ground state. This excitation is what colors a fire yellow when salt (NaCl) is put into it, or blue or green when copper salts are burned in an oxidizing flame. The intensity of the light emitted is proportional to the number of atoms present and therefore to their concentration.

The sensitivity of emission spectroscopy is limited because of the very small percentage of available atoms that can be excited in an ordinary flame. There is a much greater number of atoms at ground state which can absorb energy at this wavelength. Theoretically higher sensitivities and precision are possible with atomic absorption. Recent instrumentation has achieved sensitivities and precision that approach the theoretical limits.

The critical factor in atomic absorption spectroscopy is a light source of the proper wavelength. This has been made available by advances in design of hollow-cathode tubes. These are electronic tubes in which the cathode is composed of the element to be determined. When a light voltage is applied across the tube the element sputters off, is excited and returns to ground state emitting light in the spectral bands of the element. If this light is directed through a fog of atoms of this element, these wavelengths are absorbed in proportion to the concentration of the element.

The flame in this form of spectroscopy performs a dual function. The first is to convert the elements from their ionic form to the ground state so they will be available to absorb the light. The second function is that of a cuvette or test tube putting the material in a position where it can be analyzed.

The light transmitted through the flame cuvette is measured by means of a photocell and amplifier. Absorption is then read on a meter and is calibrated so concentration may be determined. Ambient light and emission from the flame introduce interferences that are eliminated by inserting a "chopper" in front of the hollow-cathode and converting the amplifier to an A-C amplifier and placing a monochromator before the amplifier.

Utilizing this instrument many elements can be determined with precision and accuracy at low limits of detection. The following table will be an example of what is currently available.

TABLE I

Atomic Absorption Sensitivity (in μg/ml) or (ppm.)

Antimony	0.4	Lead	0.3
Bismuth	0.3	Magnesium	0.008
Cadmium	0.005	Mercury	1.0
Calcium	0.1	Nickel	0.05
Cobalt	0.1	Selenium	1.0
Copper	0.03	Silver	0.1
Iron	0.1	Zinc	0.02

In some biologic fluids the element may be determined directly. In others, interfering substances require dilution or addition of depressing chemicals. Others require a procedure to concentrate the elements to the limits of detection. One of the most popular is to chelate the element with ammonium pyrrolidine dithiocarbamate. This complex is then extracted into an organic solvent of smaller volume. This method is reported to work well with copper, lead and mercury. Kjeldahl digestion of tissue will put most of these elements into a solution from which detection is possible. Combination of atomic absorption spectroscopy offers great promise in analysis of tissues and biologic fluids in the future.

There is an increasing medical interest in the "trace metals". Recent reports have linked cirrhosis with low serum zinc levels; increased serum manganese with myocardial infarction and copper with hepatolenticular degeneration (Wilson's disease). The toxicologic and public health applications of this technique are wide. The ability to quantitate accurately the levels of foreign metals in body fluids will have some impact on industry.

Atomic absorption spectroscopy is a new technique with great promise for accurate and true determination of many elements. It is inherently more sensitive and simpler than the routine clinical methods. The importance of trace metals in disease as well as the toxic effects of the other metals will probably be emphasized in the future largely due to this technique.

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ANNUAL MEETING

The Medical Society of Virginia

WILLIAMSBURG, VIRGINIA

NOVEMBER 6-9, 1966

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

The State-Local Cooperative Plan for the Provision of Health Services and Responsibilities

Virginia's cooperative plan for the provision of public health services and responsibilities is an unique and highly successful one. Its appeal lies in the fact that it is the most reasonable and efficient way to provide health services to all the people.

Basic to an understanding of the program is a knowledge of the services and responsibilities involved. Public health activities fall into four major categories: (1) protective, such as water, sewage, milk, and other environmental controls; (2) preventive, such as immunizations, investigations of acute communicable diseases, food poisoning, etc., and mass surveys for tuberculosis, venereal disease, and other conditions; (3) health care and supervision, such as for chronic diseases, crippled children, complicated pregnancies, and premature and sick infants; and (4) vital records and health statistics. A fifth activity, which involves no legal responsibility but is, nevertheless, of growing importance, is consultation—to local governing bodies, local physicians, hospitals, and nursing homes.

All of these activities involve both State and local laws, many of which are similar or identical. To attempt to carry out State and local responsibilities on a separate basis would be not only foolish and uneconomical, but would require duplication of scarce personnel and, as far as the State is concerned, an army of health personnel operating out of the Richmond office. It is wiser to join the locality on a partnership basis. In the long run, a well-trained sanitarian, nurse, or public health physician, who lives on the spot and is well-known and has the respect and confidence of the local citizens, is far more effective than an itinerant health worker from Richmond.

In 1954 the General Assembly of Virginia passed the enabling legislation for the partnership plan. It provides two things: first, for any county or city, or any combination thereof, to create a district health department; and, second, for the district health department thus formed to enter into a contractual agreement with the State Health Department for the operation of the district health department. At the present time there are forty-two local health districts composed of one, two, three, or more counties and/or cities, depending primarily upon the concentration of population or the area involved. A 1966 amendment clarifies the law by providing that a large city, such as Norfolk, may operate as a single health district.

Financial support of the local health department is shared by the State and the locality under a formula based on the locality's ability to pay. Using the estimated true tax value of the locality as of a certain date, the county with the lowest tax value pays 18% of the operation of the local health department, and the counties or cities with the highest value pay 45%. The State, therefore, pays no less than 55% and no more than 82%.

Personnel are recruited either by the State or the locality, but they must meet State Merit System requirements and are appointed as State employees with accompanying leave, retirement, and other benefits. This provides for uniformity of personnel standards throughout the State.

The State Department of Health supplies over-all administrative supervision to assure the locality of public health programs which

are consistent with recognized criteria. With the present-day complexity of health programs and the rapid advances in the techniques of medicine, continuous education is required for all levels of personnel. Individual localities may find it difficult to keep abreast of these changes, and it is, therefore, in the field of continuation education and staff development that the State Health Department can be of real value. Consultation services are of equal worth, for it is just as important to be in a position to advise on when and in what areas not to spend money as it is to propose new programs and new ideas. Ten thousand dollars can be quickly spent on health services today, but $10,000 in tax funds misspent on a program without adequate scientific backing can be a real misfortune for the average locality.

Hoping not to get too involved, let us examine, as a sample, the operation of the Halifax-Pittsylvania-Danville Health District, which is comprised of two counties and one independent city. Local health offices are maintained in South Boston for Halifax County, in Chatham for Pittsylvania County, and in the City of Danville. The district has the services of one full-time physician director. Each department has a staff of public health nurses, sanitarians, and office clerks and such basic clinics as maternity, well-baby, immunization, etc. By combining together as a district, the three departments have the benefit of additional and specialized services and personnel. Tuberculosis, crippled children, dental, and venereal disease clinics are available on a district basis.

For administrative purposes districts are combined into regions. The Halifax-Pittsylvania-Danville District Health Department lies within Region 11, which comprises fourteen Southside Virginia counties and three independent cities. On the regional basis more highly specialized personnel and services are available. There is a regional health director, an engineer, and clinics for alcoholism, mental retardation evaluation and consultation, heart disease, etc.

Programs for heart defects, facial deformity, rheumatic fever, cystic fibrosis, etc., must, because of their very nature, be operated within the confines of a large medical center. These are available on a State-wide basis but here, as in all programs, the important factors of case finding, referral, and follow-up are carried through the facilities of the local health department.

For such technical procedures as radiation control and engineering of large water and sewage systems, there is a staff of specialists available from the central office in Richmond. Services in these fields are paid entirely by the State, at no cost to the locality.

During the 1965 calendar year, 429,926 visits were made to the clinics operated by the affiliated local health departments. These clinics are manned by local physicians who are paid on a fee-per-clinic basis. Approximately two thousand physicians work in the local health clinics, and they furnish the muscle for the successful operation of any health program. For a variety of reasons the old pattern of caring for indigent patients in the physician's private office is being changed. Physicians now prefer to provide such care at a local health clinic where patient records may be kept and nursing, laboratory, and other paramedical services are available. Health departments, therefore, are becoming more involved in patient care, and the new general medical clinics and home nursing services are proving popular with the patient and doctor alike.

The State-local cooperative plan was authorized by law in 1954 and nearly all of the counties joined the plan immediately. The cost of affiliating a large city was great and, therefore, the probability of securing the funds for more than one city at any one session of the General Assembly was remote. Danville was accepted in 1956, Portsmouth in 1960, Charlottesville in 1962, Clifton Forge in 1963, and Hopewell in 1965. Norfolk applied and was included in the 1966

budget request. However, the enactment of the State sales tax provided a source of funds which made affiliation possible for Norfolk as well as all of the remaining independents. The 1966 General Assembly specifically appropriated funds for the affiliation of Norfolk and, in addition, provided a "sum sufficient" for any other independent city or county which so desired to join the plan during the 1966-1968 biennium. Under this arrangement details were completed for Richmond and Newport News to affiliate, along with Norfolk, on July 1, 1966. Feasibility studies are under way for Alexandria, Petersburg, and the County of Arlington, and if the governing bodies of these decide in favor of affiliation, it probably will be accomplished by January 1, 1967. Representatives of the governing bodies of Roanoke, Lynchburg, and Henrico County, the only remaining independent departments, have expressed interest in affiliation but no definite steps have been taken in this direction.

The State Health Department has never attempted to sell the cooperative plan; rather, the initiative has been left to the locality. Such a practical approach to the delivery of health services and the resulting financial advantages to the localities and the State have become more and more obvious as affiliations are successfully accomplished. These are the real drawing cards of the program today.

One further point which must not be overlooked is the expenditure of Federal funds. Even though the present Federal method of appropriating funds by disease category is difficult to administer, it is possible to funnel most of these funds down to the local areas through the network of local health departments. Only 5.2% of the Federal funds is kept for administrative purposes in the central office; all of the rest is spent locally on direct health services. Wherever possible, the Federal dollar is incorporated into the over-all budget and spent in the same manner as the State dollar.

By means of the affiliated program, and including the remaining independent departments, every county and city in Virginia is covered by a public health program. There are few states for which a similar statement can be made.

To repeat, affiliation is a reasonable, efficient, and successful way to provide public health services and to meet State and local responsibilities. It is a partnership arrangement of which Virginia has reason to be proud.

Monthly Report of Bureau of Communicable Disease Control

	July 1966	July 1965	Jan.-July 1966	Jan.-July 1965
Brucellosis	3	3	11	6
Diphtheria	0	0	0	0
Hepatitis	38	32	360	465
Measles	377	149	2928	4192
Meningococcal Infections	1	3	53	47
Meningitis (Aseptic)	1	1	4	6
Poliomyelitis	0	0	0	0
Rabies (in Animals)	16	17	190	266
Rocky Mt. Spotted Fever	8	10	17	24
Streptococcal Infections	614	518	8590	7714
Tularemia	0	1	2	5
Typhoid Fever	0	0	7	2

Mental Health . . . .

A. RAY DAWSON, M.D.

Rehabilitation for the Mentally Disabled

The last two decades have brought increasing community activity in meeting the problems of mental health, with the mental hygiene clinic, aftercare, and rehabilitation playing a prominent part. Studies have shown that in many cases, hospitalization can be prevented and that aftercare and rehabilitation lower readmission rates.

One of the most impressive studies of the effectiveness of aftercare was conducted in the Commonwealth of Virginia, along with four other states, and showed that persons receiving full aftercare attention had a readmission rate of 14.8 per cent, as compared with a controlled group of 43.5 per cent.

When rehabilitation is combined with aftercare, the earning capacity of the person, the family stability, and the community adjustment is invariably enhanced.

During the past decade, public awareness of the effectiveness of community action including rehabilitation in dealing with the mental health problem has found expression in legislative action. The U. S. Congress, in 1954, authorized and implemented expanded rehabilitation efforts in the mental health field, and every session of Congress since 1954, on the basis of shown results brought out in congressional hearings, has further expanded this effort.

During the same time, many state legislatures have expressed the same trend. Our own legislature, meeting during the past winter, authorized and implemented expansion of aftercare activities in the Commonwealth. The Department of Mental Hygiene and Hospitals, now having these much-welcomed mandates, is proceeding to implement expanded aftercare and rehabilitation.

Although aftercare and rehabilitation cannot be separated, it is the purpose of this report to stress the efforts of the department in the field of rehabilitation. In cooperation with the Department of Vocational Rehabilitation, it is planned to supplement present rehabilitation activities in each of its hospitals with a vocational rehabilitation unit. This unit will increase vocational counseling activities already going on in the hospitals, bringing in psychologists trained in vocational practices and additional psychiatric social workers. Combined with these people will be those persons trained in evaluating vocational potentials and teaching vocational skills.

While working with the patient, that is, evaluating him, teaching him new skills, and the like, resocialization will play a prominent part. Most of the above is at present a part of the treatment regimen in our state mental hospitals and has been for a number of years. These activities are now to be structured, augmented and expanded.

It has been shown that the "follow-through" features of this augmented plan pay associated dividends. Representatives of the Department of Vocational Rehabilitation first contact the patient while in the hospital, make a vocational evaluation, and start vocational training, if indicated. They will determine work capacity and native skills, evaluate social and economic problems, all of this being done while the patient is under psychiatric care and in cooperation with the treatment regimen for the specific patient while in that institution.

At the time of discharge, in addition to plans for aftercare, a vocational rehabilita-

DAWSON, A. RAY, M.D., *Director of Rehabilitation, Department of Mental Hygiene and Hospitals.*

Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

tion plan will come into being based on knowledge gained of the person in vocational areas and in consultation with the psychiatric team. In general, these plans will fall under four large categories: (1) job placement, (2) need for further training in vocational skills, (3) on-the-job training, and (4) a sheltered work experience.

In cooperation with the aftercare plan, the vocational counselor will follow the patient in his post-hospital experience with the ultimate goal, social and vocational reintegration into society.

Experience gained in our sister States of Maryland and North Carolina has shown this approach to be successful; however, the most valuable experience in formulating the department's plans has been gained within the Commonwealth. Beginning in a small way some years ago, the Woodrow Wilson Rehabilitation Center at Fishersville accepted post-hospitalized psychiatric cases and persons suffering from personality disorders. The number of clients in these categories has gradually climbed to 197 for the past year. Experience has shown that ex-patients respond well to this approach.

The first vocational rehabilitation unit was initiated at Central State Hospital, Petersburg, on July 5, 1966. This unit, at present, is small, but will be expanded as experience is gained and personnel become available. Units in other state hospitals will be initiated depending upon training or securing trained personnel.

The basic philosophy undergirding this activity was perhaps best expressed by Dr. Adolf Meyer in the late 1920's when he said, "In the treatment of the mentally ill, one must start with the facts of the situation and work out from them. . . ."

Certain facts are clear; among them are the following that are of particular interest in this endeavor:

(1) The presenting crises in many cases of mental illness fall within the area of school adaptation and vocational adjustment. These are areas of primary concern to the vocational rehabilitation counselor. His assistance in bringing services to these patients has proven itself to be a valuable facet in the patient's adjustment to life situations.

(2) The fact of problems surrounding the mental patient's return to the community are well expressed by Miss Mary Switzer, Commissioner, U. S. Vocational Rehabilitation Administration, in writing a foreword to a pamphlet on *Halfway House:*

"Return to the community after long hospitalization may be therapeutic or traumatic—for any patient—for the long term mental patient it is often terrifying. It does not take long for the mantle of institutionalization to envelop an individual and stifle such initiative as did exist. The regimented environment protects him against the conflicts and struggles of the outside world, until at the time of discharge from the hospital he is often ill prepared to cope with it.

"For most patients discharged from the mental hospital there is still a residue of the illness. This means, then, that on returning to the community the ex-mental patient is faced with the problems indigenous to social, vocational, and psychological rehabilitation.

"For some, return to the immediate family is not desirable. Some simply have nowhere to go. Unfortunately, because of this, many patients have remained in the hospital long past the time of maximum benefit from hospitalization, and past the point where they could benefit from a rehabilitation program."

Time, experience, and public demand will determine further implementation of community activity in the mental health field, but it appears evident that no set pattern can be established for the State. In the Commonwealth, there is perhaps as much variety in community settings, cultural background, and the like as any state in the union. The Department proposes to keep itself in a flexible position in meeting the presenting problems and do what it can to "determine the facts" and seek remedies.

PRELIMINARY PROGRAM

119th MEETING

The Medical Society of Virginia

Williamsburg Convention Center
Williamsburg, Virginia
November 6-9, 1966

PRELIMINARY PROGRAM

119TH MEETING

THE MEDICAL SOCIETY OF VIRGINIA

WILLIAMSBURG CONVENTION CENTER
WILLIAMSBURG, VIRGINIA
NOVEMBER 6-9, 1966

Sunday, November 6
10:00 A.M.

COUNCIL
Room C

2:00 P.M.
HOUSE OF DELEGATES
Virginia Room

Monday Morning, November 7
9:00 A. M.
Virginia Room

Welcome and Preliminary Announcements—Hugh G. Stokes, M.D., Chairman, Local Committee on Arrangements

Memorial Service

Scientific Program

Hunter H. McGuire, Jr., M.D., Richmond, Presiding

9:05 A.M.—RENAL TRANSPORT PROGRAM AT THE MEDICAL COLLEGE OF VIRGINIA—David H. Hume, M.D. and G. Melville Williams, M.D., Medical College of Virginia, Richmond

9:35 A.M.—CHRONIC DIALYSIS PROGRAM AT THE UNIVERSITY OF VIRGINIA—PRESENT AND FUTURE—Frederick B. Westervelt, Jr., M.D., University of Virginia School of Medicine, Charlottesville.

Long term hemodialysis of patients with advanced renal failure is now considered to be an effective form of treatment, although expensive and available to but a few patients. Its present status and future prospects will be discussed, with specific reference to the program at the University of Virginia Medical Center.

10:05 A.M.—*Invited Speaker*—Munsey S. Wheby, M.D., University of Virginia School of Medicine, Charlottesville—IRON DEFICIENCY ANEMIA

Diagnosis and treatment of iron deficiency anemia will be discussed. Emphasis will be placed on studies which have compared absorption of various iron preparations for oral use and on comparisons of response of oral versus parenteral administration. Iron metabolism will be reviewed briefly.

10:35 A.M.—INTERMISSION TO VISIT EXHIBITS

11:00 A.M.—*Invited Speaker*—G. Watson James III, M.D., Medical College of Virginia, Richmond—ADULT ACUTE LEUKEMIA—A CHALLENGE

11:30 A.M.—*Invited Speaker*—John G. Setter, M.D., Medical College of Virginia, Richmond—ACUTE POISONS MANAGEMENT

Monday Afternoon, November 7

See special section on luncheons, committee meetings and special events.

3:00 P.M.

Reference Committee #1—Room D
Reference Committee #2—Room E
Reference Committee #3—Room F

Tuesday Morning, November 8
9:00 A.M.
Virginia Room

George B. Kegley, M.D., Bland, Presiding

SYMPOSIUM ON THE COMMUNITY HOSPITAL IN A CHANGING ERA

9:00 A.M.—CONTINUING EDUCATION AT THE COMMUNITY HOSPITAL—Panel to be Moderated by Charles M. Caravati, M.D., Richmond, and Charles L. Crockett, Jr., M.D., Charlottesville

10:30 A.M.—INTERMISSION TO VISIT EXHIBITS

11:00 A.M.—MEDICARE AND FUTURE MEDICAL HEALTH LEGISLATION—ITS EFFECT ON THE COMMUNITY HOSPITAL—Panel to be moderated by Kenneth R. Crispell, M.D., Charlottesville

Tuesday Afternoon, November 8
2:00 P.M.
Virginia Room

William Grossmann, M.D., Petersburg, Presiding

2:00 P.M.—*Guest Speaker*—Dana L. Farnsworth, M.D., Director, University Health Services and Henry K. Oliver, Professor of Hygiene, Harvard University, Cambridge, Massachusetts.

2:30 P.M.—Slaughter on the Highway and the Physician's Responsibility—Robert W. Waddell, M.D., Virginia Beach

This paper is divided into three parts. The first features Kodachrome illustrations of vehicles involved in fatal accidents in the Virginia Beach area. Also included are some clinical cases which illustrate the various mechanisms of injury and death. The second part deals principally with statistical analysis of automobile accidents, chances of involvement, etc. The third part deals with how physicians can combat the problem and covers those medical indications for driver license rejection.

2:45 P.M.—Discussion

2:50 P.M.—Phrenology and the Neurosurgeon—Robert P. Singer, M.D., Richmond.

The author will offer a pictorial review of a group of common and unusual palpable masses of the skull and scalp—their diagnosis and treatment.

3:05 P.M.—Discussion

3:10 P.M.—Management of the Solitary Asymptomatic Lung Lesion—Marcellus A. Johnson III, M.D., Roanoke.

Methods of evaluating and treating small asymptomatic lesions of the lung will be discussed. Useful as well as superfluous diagnostic procedures will be presented. Indications for and against surgical treatment will be shown. Statistics and follow up results on approximately fifty cases will be presented. All of these have been found on routine chest x-rays. Slides of x-rays and charts will be used.

3:25 P.M.—Discussion

3:30 P.M.—A New Plan for the Study and Comprehensive Treatment of Alcoholics in Virginia—Ebbe Curtis Hoff, M.D., Richmond.

The author will present basic principles for a comprehensive treatment and rehabilitation of alcoholics including hospitalization as well as clinical therapy. A report will be given of major research areas in this field, including studies by the author and his colleagues of the association between patient diagnostic and other characteristics, modalities of therapy, and treatment outcome.

3:45 P.M.—Discussion

3:30 P.M.
HOUSE OF DELEGATES
Rooms D, E, F

Wednesday Morning, November 9
9:00 A.M.
Virginia Room

Hunter H. McGuire, Jr., M.D., Richmond, Presiding.

9:00 A.M.—Modern Birth Control—John Crawford, M.D., Virginia Beach.

Contraceptive pills and IUCDs have been in use locally for the past several years. The older types of birth control will be reviewed and compared with these. The use of, the reactions to, and the complications of the IUCDs will be presented plus a statistical analysis of their employment locally. Cases and x-rays will demonstrate the points to be emphasized.

9:15 A.M.—Discussion

9:20 A.M.—Doctor, My Hair Is Falling Out—Charles M. Aaronson, M.D., Fairfax.

Contrary to previous experience, the commonest causes of alopecia in an affluent suburban society are non-infectious. Alopecia areata is perhaps the most frequent, and affects females and children by preference. The prognosis is favorable unless massive areas have become bald, or the sources of emotional trauma are irremediable. Emphasis is laid on protecting patients from exploitation by non-medical "hair specialists".

9:35 A.M.—Discussion

9:40 A.M.—A Rational Approach to the Management of Acne Vulgaris—E. Randolph Trice, M.D., Richmond.

Acne vulgaris is one of the most common diseases affecting young people and probably the one most often mismanaged in terms of good treatment. Current knowledge regarding the pathogenesis and proper treatment will be presented. Various types of acne will be demonstrated. Topical measures, systemic therapy and other therapeutic modalities currently determined to be effective in its management will be discussed.

9:55 A.M.—Discussion

10:00 A.M.—Transvenous and Transthoracic Implanted Cardiac Pacemakers in a Large Community Hospital—Donald W. Drew, M.D., and Levi Old, Jr., M.D., Norfolk.

Indications and complications for the use of implanted cardiac pacemakers in community hospitals will be discussed. Attention will be given to unique problems that developed in the course of follow-up in patients with implanted pacemakers. Special attention will be given to the transvenous implanted catheter electrode pacemaker which requires only local anesthesia, avoids thoracotomy, has a short hospital stay and seems to

have a paucity of complications. Since complete heart block and Stokes-Adams attacks seem to be more frequently a problem of the older age group, this type of cardiac pacemaker seems peculiarly suited to the elderly patient.

10:15 A.M.—Discussion

10:20 A.M.—Intermission to Visit Exhibits

10:40 A.M.—*Guest Speaker*—International College of Surgeons, Virginia State Surgical Division

11:10 A.M.—Nonoperative and Operative Treatment of Rheumatoid Arthritis—Robert H. Brumfield, M.D., Roanoke.

It has been estimated by the Arthritis and Rheumatism Foundation that there are 1½ million people in the United States with a definite diagnosis of rheumatoid arthritis and 4½ million people in the United States with probable rheumatoid arthritis. This paper is divided into four parts, and covers diagnosis, pathogenesis of disease and operative treatment.

11:25 A.M.—Discussion

11:30 A.M.—New Developments in the Treatment of Skin Cancer of the Face—J. E. Adamson, M.D., C. E. Horton, M.D., and H. H. Crawford, M.D., Norfolk.

With the development of effective ultra violet light screening agents which can be applied to the skin, the incidence of basal and squamous cell carcinoma of the skin of the face should decrease. The mode of action of these agents is reviewed.

Newer technique for the treatment of pre-cancerous lesions are presented, as are recent developments in the use of full thickness grafts, composite (skin and cartilage) grafts, and neurovascular pedicle flaps, which are valuable in the reconstruction of extensive facial defects after the removal of skin cancer are reviewed. Appropriate slides and diagrams accompany the presentation to illustrate vital points.

11:45 A.M.—Discussion

SPECIAL EVENTS

Sunday, November 6

Virginia Academy of General Practice
Breakfast—Board of Directors—Room A—8:00 A.M.

Council, The Medical Society of Virginia
Business Meeting—Room C—10:00 A.M.
Lunch—Room A—12:00 Noon

International College of Surgeons, Virginia State Surgical Division
Meeting—Room D—1:00 P.M.
Social Hour—Rooms E and F—6:30 P.M.

House of Delegates, The Medical Society of Virginia
Virginia Room—2:00 P.M.

Virginia Dermatological Society
Meeting—Room G-1—2:00 P.M.
Reception—Room G-2—5:00 P.M.

VaMPAC
Banquet—Rooms A, B and C—6:30 P.M.

Monday, November 7

VaMPAC
Breakfast—Board of Directors—Room A—7:30 A.M.

Virginia Society of Plastic and Reconstructive Surgery
Luncheon—Room G-1—1:00 P.M.

Virginia Radiological Society
Luncheon—Room D—1:00 P.M.

Neuropsychiatric Society of Virginia
Luncheon—West Dining Room, Lodge—1:00 P.M.

Virginia Orthopaedic Society
Luncheon—Room E—1:00 P.M.

Virginia Chapter, American Association of Public Health Physicians
Luncheon—Room F—1:00 P.M.

Virginia Section, American College of Physicians
Luncheon—North Dining Room, Inn—1:00 P.M.

Virginia Obstetrical and Gynecological Society
Luncheon—Scroll Room—1:00 P.M.

Virginia Surgical Society
Luncheon—West Dining Room, Inn—1:00 P.M.

Medical Advisory Committee to League of Planned Parenthood
Meeting to follow luncheons—Time to be announced

Reference Committee #1
Room D—3:00 P.M.

Reference Committee #2
Room E—3:00 P.M.

Reference Committee #3
Room F—3:00 P.M.

The Medical Society of Virginia
Cocktail Party—North and East Galleries—6:30 P.M.
Banquet—Virginia Room—7:30 P.M.

Tuesday, November 8

Virginia Industrial Medical Association
Breakfast—Room C—7:30 A.M.

Virginia Academy of General Practice

Breakfast—Editorial Board—Room G-1—7:30 A.M.
Breakfast—Membership and Credentials Committee—Room G-2—7:30 A.M.
Luncheon—South and West Dining Rooms, Inn—12:45 P.M.

Virginia Society of Internal Medicine
Breakfast—Room B—7:30 A.M.

Virginia Urological Association
Luncheon—Room B—12:45 P.M.

Virginia Flying Physicians Association
Luncheon—Room A—12:45 P.M.

Virginia Society of Anesthesiology
Luncheon—Room C—12:45 P.M.

House of Delegates, The Medical Society of Virginia
Second Session—Rooms D, E and F—3:30 P.M.

Medical College of Virginia Alumni Association
Cocktail Party—Virginia Room—6:30 P.M.
Banquet—Virginia Room—7:30 P.M.

University of Virginia Medical Alumni Association
Cocktail Party—North Gallery—6:30 P.M.
Banquet—Rooms A, B and C—7:30 P.M.

George Washington University Medical Alumni Association
Cocktail Party—North Dining Room, Inn—6:30 P.M.

TECHNICAL EXHIBITS

Technical and Scientific Exhibits will be located in North Ballroom and the Tidewater Room of the Convention Center. The following are Technical Exhibits with descriptive write-ups:

Space No. 1
THE COCA-COLA COMPANY
New York and Newport News

Ice cold Coca-Cola served through the courtesy and cooperation of the Newport News Coca-Cola Bottling Company and the Coca-Cola Company.

Space No. 2
SOUTHERN MEDICAL SUPPLY COMPANY
Richmond, Virginia

Space No. 3
MALLINCKRODT PHARMACEUTICALS
St. Louis, Missouri

SONILYN® (sulfachlorpyridazine) is a short-acting sulfonamide specifically designed to treat acute and chronic urinary tract infections.

Stat-Test™ Reagent (Griess Nitrite Reagent Unit) is indicated as a screening test for asymptomatic bacteriuria.

Space No. 4
SMITH, MILLER & PATCH, INC.
New York, New York

Smith, Miller & Patch cordially invites you to visit their exhibit. Our representatives will be pleased to discuss the latest advances in therapy. Featured at our exhibit will be: Somnafac, a new non barbiturate somnifocient, Lipoflavonoid, Lipotriad, Vitron-C and Kondremul. Also featured will be a range of tropical ophthalmic preparations including Basocon-A, an antihistamine/decongestant.

Space No. 5
THE STUART COMPANY
Pasadena, California

A cordial invitation is extended to all members and guests attending this meeting to visit our booth. Specially trained representatives will be in attendance to answer your questions on new products, developed in our modern laboratories, which have particular interest for the medical profession. Products featured are DIALOSE, DIALOSE PLUS, MYLICON, MYLANTA, STUART PRENATAL, STUART PRENATAL-F, MULVIDREN-F, MULVIDREN JUNIOR AND FERANCEE.

Space No. 6
SANDOZ PHARAMACEUTICALS
Hanover, New Jersey

Sandoz Pharmaceuticals cordially invites you to visit our display where we are featuring Mellaril, Sansert, Cafergot P-B, Fiorinal and Fiorinal with codeine.

Any of our representatives in attendance will gladly answer questions about these and other Sandoz products.

Space No. 7
J. B. ROERIG AND COMPANY
New York, New York

J. B. Roerig and Company will welcome members of the medical profession at their exhibit of leading specialty products. Representatives will be in attendance to answer any questions you may have. Roerig recently introduced a number of new products which representatives at the exhibit will be pleased to discuss with you.

Space No. 8
U. S. VITAMIN & PHARMACEUTICAL CORPORATION
New York, New York

The U. S. Vitamin & Pharmaceutical Corporation cordially invites you to visit their exhibit where DBI and DBI-TD will be on display, as well as other leading pharmaceutical specialties and nutritional products.

Professional service representatives will be in attendance to welcome you and to be of help in answering any inquiries pertaining to the products on display, as well as any of their other products.

Space No. 9
AYERST LABORATORIES
New York, New York

Ayerst Laboratories extends an invitation to visit our exhibit where PREMARIN and MEDIATRIC are being featured. Our representatives will be pleased to discuss these or other Ayerst products with you. Descriptive literature also available.

Space No. 10
WM. P. POYTHRESS & COMPANY
Richmond, Virginia

Trocinate is a new concept in smooth muscle spasmolysis, acting directly upon muscle cells. Not an anticholinergic. No side-effects characteristic of autonomic blocking drugs. High therapeutic index. No untoward effects in sixteen years of clinical use. Trocinate is particularly effective against functional diarrhea, mucous colitis, diverticulitis, spastic ureteritis and blatter spasms.

Space No. 11
SCHERING CORPORATION
Bloomfield, New Jersey

Schering Corporation invites you to visit their exhibit, where their representatives will be available to discuss with you any questions you may have on CELESTONE®, SOLUSPAN™, ETRAFON®, TINACTIN®, AFRIN® or any other Schering product.

Space No. 12
LAKESIDE LABORATORIES
Milwaukee, Wisconsin

Space No. 17
ALLWOOD RESEARCH ASSOCIATES
Summit, New Jersey

Space No. 18
ROCHE LABORATORIES
Nutley, New Jersey

Continuing Roche research has produced outstanding contributions to medicine since 1909. The personnel at the exhibit welcome your comments, questions or suggestions about our products and services.

Space No. 19
A. H. ROBINS COMPANY
Richmond, Virginia

You are cordially invited to visit the Robins display and meet our representatives who will welcome the opportunity to discuss products of interest with you.

Space No. 20
PEOPLES DRUG STORES
Washington, D. C.

Mr. D. W. Bell, Jr., District Manager, and Mr. John R. McHugh, Director of Professional Services will be glad to greet you and discuss with you the many professional services we have to offer the members of the medical profession.

Space No. 21
HEWLETT PACKARD
Richmond, Virginia

Electronic instruments for diagnosis and research. The 780 Series of monitoring devices for Operating and Recovery rooms, Intensive Care and Coronary Care Units. Model 500 Visco-Cardiette, electrocardiograph.

Space No. 22
COMMERCIAL INSURANCE COMPANY
Newark, New Jersey

The Commercial Insurance Company of The Continental Insurance Companies will have representatives present with information and descriptive brochures, etc., of the basis "Disability Income Plan" endorsed by the Society and in force since 1955.

Space No. 23
PARTAKE OF RICHMOND
Richmond, Virginia

Space No. 25
MEAD JOHNSON LABORATORIES
Evansville, Indiana

The Mead Johnson Laboratories' exhibit has been arranged to give you the optimum in quick service and product information. To make your visit productive, specially trained representatives will be on duty to tell you about their products.

Space No. 26
W. B. SAUNDERS COMPANY
Philadelphia, Pennsylvania

New Saunders books of special clinical interest include: Gellis and Kagan; Pediatric Therapy; Friedberg: Diseases of the Heart; Conn et al: Current Diagnosis; Leavell and Thorup: Clinical Hematology; Meschan: Roentgen Signs in Clinical Practice; and Conn: Current Therapy in 1966.

Space No. 27
ENCYCLOPEDIA BRITANNICA
Chicago, Illinois

Encyclopaedia Britannica invites delegates to examine the great new editions and to visit them in our booth for free descriptive literature.

Space No. 28
BURROUGHS WELLCOME & COMPANY
Tuckahoe, New York

You are cordially invited to visit us for information on our products and the newest developments from the research facilities of Burroughs Wellcome.

Of particular interest at this meeting is NEOSPORIN G.U. IRRIGANT, a bactericidal continuous irrigant for short-term use (up to 10 days) with indwelling catheters in the urinary bladder of abacteriuric patients. The Use of Neosporin G.U. Irrigant will help prevent bacteriuria and Gram-negative rod bacteremia, associated with the use of indwelling catheters.

Space No. 29
GEIGY PHARMACEUTICALS
Ardsley, New York

Geigy Pharmaceuticals cordially invites members and guests to visit its exhibit. The exhibit features important new therapeutic develepments in the management of cardiovascular disease as well as current concepts in the control of inflammation, hypertension and edema, depression, obesity, and other disorders which may be discussed with representatives in attendance.

Space No. 30
DAVID A. DYER INSURANCE AGENCY
Roanoke, Virginia

Specializing in Group Insurance Programs for members of The Medical Society of Virginia—Disability Income, Major Hospital Nursing and Professional Overhead Expense programs.

Space No. 31
E. R. SQUIBB & SONS
New York, New York

Space No. 32
HERALD PHARMACAL, INCORPORATED
Bedford, Virginia

Herald Pharmacal cordially invites you to visit our booth and inspect a line of unique dermatologicals which are manufactured in Virginia by Virginians.

Space No. 33
CIBA PHARMACEUTICAL COMPANY
Summit, New Jersey

CIBA Professional Service Representatives will be pleased to discuss Ser-Ap-Es and the new product Dialog.

Space No. 34
SMITH, KLINE & FRENCH LABORATORIES
Philadelphia, Pennsylvania

Representatives will be on hand to answer your specific questions and provide information on their products and services.

Space No. 35
PFIZER LABORATORIES
New York, New York

Professional Service Representatives from Pfizer Laboratories will be pleased to have you in attendance at their booth to discuss the latest products of Pfizer research.

Space No. 36
THE UPJOHN COMPANY
Kalamazoo, Michigan

Professional representatives of The Upjohn Company are eager to contribute to the success of your meeting. We are here to discuss with you products of Upjohn research that are designed to assist you in the practice of your profession. We solicit your inquiries and comments.

Space No. 37
WALLACE LABORATORIES
Cranbury, New Jersey

Space No. 38
BRISTOL LABORATORIES
Syracuse, New York

Bristol Laboratories feature TEGOPEN (sodium cloxacillin monohydrate). Unlike penicillin V or G, TEGOPEN eradicates streptococci, pneumococci, staphylococci; and resistant staphylococci; and is priced comparable to quality brands of penicillin V and G. TEGOPEN is available in three dosage forms: 250 mg. capsules, oral solution, and 125 mg. pediatric capsules.

Space No. 39
R. J. REYNOLDS TOBACCO COMPANY
Winston-Salem, North Carolina

Welcome to the R. J. Reynolds Tobacco Company Exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice if CAMEL, WINSTON Filter, SALEM Filter, TEMPO Filter, or CAVALIER King Size Cigarettes.

Spaces Nos. 40 and 41
GENERAL MEDICAL CORPORATION
Richmond, Virginia

Space No. 49
ORTHO PHARMACEUTICAL CORPORATION
Raritan, New Jersey

Welcome to booth No. 49 where ORTHO is proud to present the two latest products of the ORTHO Research Foundation, ORTHO-NOVUM® Tablets and DELFEN® Vaginal Foam. Also on display will be our well-known products for treatment of various forms of vaginitis. Your questions will be welcomed by representatives in attendance.

Space No. 51
MERCK SHARP & DOHME
West Point, Pennsylvania

The Merck Sharp & Dohme exhibit has been designed to supplement the physicians therapeutic armamentarium. Technically trained personnel are present to discuss the scope and variety of services offered.

Space No. 52
ARNAR-STONE LABORATORIES
Mount Prospect, Illinois

AMERICAINE TOPICAL ANESTHETIC—20% dissolved benzocaine in a water-soluble base—ointment, liquid, suppositories and aerosol forms. HAZEL-BALM—cooling, soothing witch hazel and emollient lanolin in aerosol form—providing a comforting "cushion of foam". EMESERT—for relief of nausea and vomiting. Administered rectally, this suppository provides positive placement and prompt and sustained relief.

Space No. 53
SYNTEX LABORATORIES
Palo Alto, California

SYNALAR® (fluocinolone acetonide), the topical corticosteriod designed to meet specific dermatologic needs, will be featured. SYNALAR has set a new standard of success in the treatment of a wide range of inflammatory dermatoses.

NORINYL® (norethindrone 2.0 mg. with mestranol 0.1 mg) tablets, an original steroid from SYNTEX will also be featured. NORINYL provides multiple contraceptive action that has produced a record of 100% effectiveness.

A warm invitation is extended to all physicians to visit our booth and discuss the latest developments from SYNTEX research.

Space No. 54
ELI LILLY AND COMPANY
Indianapolis, Indiana

You are cordially invited to visit the Lilly exhibit. Our sales representatives in attendance welcome your questions about Lilly products.

You may be particularly interested in discussing KEFLIN® Sodium Cephalothin, or C-QUENS™ Sequential folder containing fifteen 80-mcg. tablets of mestranol plus five tablets each combining 80 mcg. mestranol and 2 mg. chlormadinone acetate.

Space No. 60
WINTHROP LABORATORIES
New York, New York

Winthrop Laboratories invites you to visit our booth where we will feature New WinGel, antacid for peptic ulcer, gastritis, gastric hyperacidity, liquid and tablets, hexital, stabilized aluminum and magnesium hydroxides. Neutralizes 300 times its active weight in gastric acid for fast and prolonged relief.

Also displayed will be Isuprel (brand of isoproterenol) Mistometer, NegGram (brand of nalixic acid).

Space No. 64
ABBOTT LABORATORIES
North Chicago, Illinois

Abbott Laboratories invites you to visit our exhibit. Our representatives will be happy to answer any questions you may have concerning our leading products and new developments.

Space No. 65
G. D. SEARLE & COMPANY
Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Ovulen for ovulation control and menstrual disturbances, and Flagyl, a potent, new trichomonacidal agent for trichomonal vaginitis, cervicitis, urethritis and prostatitis.

DELEGATES TO THE 1966 MEETING THE MEDICAL SOCIETY OF VIRGINIA

Where no name is listed it is indicative that no delegate or alternate was reported in time for publication.

Delegates	*Alternates*
Accomack	
Dr. Walter A. Eskridge	Dr. Donald F. Fletcher, Jr.
Albermarle	
Dr. John R. Morris, Jr.	Dr. George R. Minor
Dr. James C. Respess	Dr. James B. Twyman
Dr. John L. Gurrant	Dr. Marion K. Humphries
Dr. W. Copley McLean	Dr. John G. Kroll
Dr. Armistead P. Booker	Dr. William R. Dandridge
Alexandria	
Dr. John C. Watson	Dr. William J. Weaver, Jr.
Dr. James M. Moss	Dr. H. H. Ferrell, Jr.
Dr. F. Preston Titus	
Dr. Thomas L. Lucas	
Alleghany-Bath	
Dr. Louis A. Houff	Dr. John D. Adams
Dr. William J. Ellis	Dr. Edward M. Bowles
Dr. Walter E. Vermilya	Dr. Donald S. Myers
Dr. William Fletcher	Dr. Wallace C. Nunley
	Dr. N. B. Jeter
Amherst-Nelson	
Arlington	
Dr. Joseph O. Romness	Dr. Henry L. Bastien
Dr. William D. Dolan	Dr. Sidney A. Tyroler
Dr. W. Leonard Weyl	Dr. Thomas A. McGavin
Dr. K. Charles Latven	Dr. Lloyd B. Burk, Jr.
Augusta	
Bedford	
Dr. William V. Rucker	Dr. O. B. Darden, Jr.
Botetourt	
Buchanan-Dickenson	
Dr. B. D. Berry	Dr. J. C. Moore
Dr. J. P. Sutherland	Dr. T. D. McDonald
Charlotte	
Culpeper	
Dr. Robert L. Cassidy	Dr. George E. Broman, Jr.
Dr. O. Kyle Burnette	Dr. John P. Snead IV
Danville-Pittsylvania	
Dr. Francis H. McGovern	Dr. Robert E. Musgrave
Dr. Walter C. Fitzgerald	Dr. Eugene M. Evans, Jr.
Fairfax	
Dr. M. Mendel Bockner	Dr. Edward J. Gallagher
Dr. C. Barrie Cook	Dr. John E. Prominski
Dr. Carl P. Parker, Jr.	Dr. Donald S. Thorn
Dr. William J. Reardon	Dr. Thomas M. Wright
Dr. Henry T. Kulesher	

Delegates	*Alternates*
Fauquier	
Floyd	
Dr. F. Clyde Bedsaul	Dr. Lawrence V. Marshall
Fourth District	
Dr. James T. O'Neal	Dr. James L. Hamner
Dr. C. G. O'Brien	Dr. Earl M. Bane
Dr. William B. Bishop	Dr. Nelson M. Smith
Dr. William Grossmann	Dr. James A. Kirkland
Dr. Henry B. Showalter	Dr. Emerson D. Baugh, Jr.
Dr. Robert D. Keeling	Dr. William A. Shelton
Dr. James S. Harris	Dr. Charles W. Scott
Dr. Anthony J. Munoz	Dr. Ray Moore, Jr.
Dr. D. P. Moore, Jr.	Dr. Wayne M. Phipps
Dr. Robert W. Bradley	Dr. Maurice Rosenberg
Dr. Kasper Kaufman	
Fredericksburg	
Dr. L. F. Moss	Dr. Stacy Lloyd
Dr. J. E. Grimes	Dr. Thomas B. Payne
Dr. James G. Willis	Dr. Donald L. Reed
Dr. John Painter	Dr. Herbert A. Hibben
Dr. D. W. Scott	Dr. F. B. Harrington
Halifax	
Hampton	
Dr. Frank A. Kearney	
Hanover	
Dr. Wayne S. Hume	Dr. John D. Hamner, Jr.
James River	
Dr. J. H. Yeatman	Dr. Garland Dyches
Dr. R. N. Snead	
Dr. W. A. Pennington	
Lee	
Dr. G. B. Setzler	Dr. Beryl Owens
Loudoun	
Louisa	
Lynchburg Academy	
Dr. Joseph L. Platt	Dr. G. E. Calvert
Dr. John Wyatt Davis, Jr.	Dr. S. Miles Bouton
Dr. Frank N. Buck, Jr.	Dr. E. H. Hansbarger, Jr.

Delegates	*Alternates*
Mid-Tidewater	
Dr. A. L. Van Name, Jr.	Dr. Harold Felton
Dr. Joseph W. Chinn	Dr. W. E. Malin
Dr. Sterling Ransone	Dr. Richard Bowles
Dr. Raymond S. Brown	Dr. Thomas Smith
Dr. Carl Broaddus	Dr. Gus Jackson
Dr. M. H. Harris	Dr. A. W. Lewis
Dr. Shirley C. Olsson	Dr. W. H. Hosfield
Newport News	
Dr. E. B. Mewborne	
Dr. S. H. Mirmelstein	
Dr. John Q. Hatten	
Dr. Paul Hogg	
Norfolk	
Dr. Robert L. Payne, Jr.	
Dr. Claiborne W. Fitchett	
Dr. William S. Hotchkiss	
Dr. Robert K. Maddock	
Dr. Charles N. VanHorn	
Dr. Robert J. Faulconer	
Dr. John A. Vann	
Northampton	
Dr. William S. Burton	Dr. J. E. Gladstone
Northern Neck	
Dr. Paul C. Pearson	
Dr. Horace E. Kerr	
Dr. Melvin B. Lambert	
Dr. A. B. Gravatt, Jr.	
Northern Virginia	
Dr. William Crawford	Dr. Edward Hopewell
Dr. Jim Holsinger	Dr. M. J. White
Dr. Elizabeth Sherman	Dr. Donald McNeill, Jr.
Dr. George Smith	Dr. J. Hortenstine
Dr. J. P. Snead, Jr.	Dr. J. P. Snead IV
Dr. C. H. Iden	Dr. Robert York
Orange	
Dr. J. Garnett Bruce, Jr.	
Patrick-Henry	
Dr. E. T. McNamee	Dr. Donald Holsinger
Dr. L. A. Faudree	Dr. Fred Renick
Dr. Bate Toms	
Portsmouth	
Dr. L. L. Davis, Jr.	Dr. A. W. Hargroves, Jr.
Dr. Neil Callahan	Dr. J. W. Hollowell

Delegates	*Alternates*
Prince William	
Dr. Alvin E. Conner	Dr. Nicholas G. Colletti
Richmond Academy	
Dr. Carl W. Meador	Dr. William R. Mauck
Dr. William R. Hill	Dr. David Pollack
Dr. Wm. H. Higgins, Jr.	Dr. John F. Kendrick
Dr. W. T. Thompson, Jr.	Dr. Ernest P. Buxton
Dr. C. Williams, Jr.	Dr. John B. Bullock
Dr. Ernest B. Carpenter	Dr. Charles McKeown
Dr. James O. Burke	Dr. Merritt W. Foster
Dr. Levi W. Hulley, Jr.	Dr. Carl S. Lingamfelter
Dr. E. Randolph Trice	Dr. George D. Vaughan
Dr. William W. Regan	Dr. Nicholas G. Poulos
Dr. H. S. Zfass	Dr. J. Warren Montague
Dr. Richard W. Dodd	Dr. Robert Irby
Dr. Curtis L. Coleman	
Dr. William C. Barr	
Roanoke Academy	
Dr. R. H. Fisher	Dr. G. G. Carmichael
Dr. G. S. Hurt	Dr. G. G. Gooch III
Dr. Fred M. Jacobs	Dr. W. P. Tice
Dr. R. L. Keeley	Dr. P. C. Trout
Dr. J. A. Martin	Dr. A. L. Wolfe
Dr. C. A. Young, Jr.	
Rockbridge	
Dr. E. V. Brush	Dr. James H. Fagan
Dr. O. H. McClung, Jr.	
Rockingham	
Dr. John T. Glick, Jr.	Dr. J. E. Gardner
Dr. G. M. Nipe	Dr. J. T. Hearn
Russell	
Scott	

Delegates	*Alternates*
Southwestern Virginia	
Dr. William McGuire	Dr. Perry Hyde
Dr. Carl E. Starke	Dr. C. D. Moore, Jr.
Dr. George B. Kegley	None Elected
Dr. J. Glenn Cox	Dr. Joseph H. Early, Jr.
Dr. O. O. Smith, Jr.	Dr. Charles O. Finne
Dr. Lester E. Dunman	Dr. E. Linwood Bagby
Dr. J. Scott Shaffer	Dr. Stuart H. Catron
Dr. John E. Trevey	Dr. John W. Bolen
Dr. William B. Waddell	Dr. Joseph C. Peck
Dr. David S. Phlegar	Dr. Henry C. Graybeal
Dr. Charles R. Duncan	Dr. Garrett Dalton
Dr. George McCall	Dr. William M. Gammon
Tazewell	
Dr. Robert A. Abernathy	Dr. James M. Peery
Tri-County	
Dr. George J. Carroll	Dr. Lawrence J. Stetson
Dr. E. M. Babb	Dr. D. C. Williams
Dr. Frank Ivan Steele	Dr. Bernard F. Jamison
Dr. Gordon G. Birdsong	Dr. I. H. McNeely
Dr. R. Townsend Artman	Dr. Donald S. Howell
Virginia Beach	
Dr. James P. Charlton	
Dr. K. K. Wallace, Jr.	
Williamsburg-James City	
Dr. Hugh Stokes	Dr. Baxter I. Bell
Dr. George J. Oliver	
Wise	
Dr. U. S. Gonzalez	Dr. William B. Barton
Dr. Fred D. Maphis, Jr.	

Woman's Auxiliary . . . .

President—Mrs. George W. Kelly, Jr., Pulaski
President-Elect—Mrs. Ralph Landes, Danville
First Vice-President—Mrs. William Reardon, Falls Church
Second Vice-President—Mrs. J. R. McGriff, Arlington
Third Vice-President—Mrs. Walter Eskridge, Parksley
Recording Secretary—Mrs. Harold Goodman, Richmond
Corresponding Secretary—Mrs. A. B. Gravatt, Kilmarnock
Treasurer—Mrs. Robert Mitchell, Arlington
Parliamentarian—Mrs. T. N. Hunnicutt, Newport News
Historian—Mrs. W. Fred Delp, Roanoke
Publicity—Mrs. Daniel Anderson, Norfolk

Auxiliary to AMA

Fifty State Presidents and Delegates representing 90,000 members of the Woman's Auxiliary to the American Medical Association shared activities, accomplishments and plans during the 43rd Annual Convention in Chicago, June 26-30.

The opening session gave the group a look at the enormity of the office of President by Mrs. Richard A. Sutter. She shared ways she had effectively divided the responsibilities, with fourteen national officers helping, by attending and representing her at state meetings, serving on committees and attending other meetings to which the Auxiliary had been invited. Mrs. Sutter reiterated the request of the AMA that we make American Medical Association AMAERF first in the plans and activities of every Auxiliary.

Virginia donated to this fund from June 1965 to June 1966, $3,212.27.

Mrs. Sutter presented to Dr. Raymond L. McKeown, AMAERF Chairman, the Auxiliary contribution of $345,573.81 for June 1965-June 1966. Dr. McKeown expressed the gratitude of the physicians to the Auxiliary by saying "your support literally has known no bounds, the women in our Auxiliaries, indeed, are becoming a more important resource each year for AMAERF." Physicians are proud of their wives and the record of the Auxiliary.

For fifteen consecutive years the Auxiliary has broken its own record each year having given a total for these years $2,493,-782.88.

It was suggested that the Medallion Christmas card samples be ordered now for circulation this summer.

Mrs. Sutter, National President, commended the group for serving its states well by promoting good relations between Auxiliary and their families.

The guest day luncheon on Monday welcomed representatives of other national women's volunteer organizations. Mr. Richard C. Cornuelle, executive Vice President, National Association of Manufacturers and author of "Reclaiming the American Dream" was the luncheon speaker.

Monday afternoon state reports were presented. The three minutes alloted to Virginia was used in giving information on (1) The Newport News Auxiliary's doll booth for the aid of the Audio and Physio-therapy department of the Patrick Henry Hospital for the Chronically Ill. (2) The Antiques Show and Sale of the Richmond Auxiliary which netted $8,000 this year for the Crippled Childrens and Sheltering Arms Hospitals. (3) The Fairfax County's Physician's Wives Aid Fund that gave $200 to Fairfax Hospital to aid families and patients in emergencies. (4) The three Auxiliaries of Northern Virginia, Alexandria, Arlington and Fairfax, combined their efforts with the Heart Association in the High School Heart Research Program.

The Tuesday luncheon was given in honor of the Past Presidents. Dr. James Z. Appel, President of the American Medical Association, was guest speaker. His subject "It It Really a Man's World?" It was very skillfully answered.

Mrs. Asher Yaguda was installed 43rd President of the Auxiliary and was entertained at a reception by her own Auxiliary in New Jersey and The Medical Society of New Jersey on Wednesday evening.

On June 30th the Post Convention Conference for Presidents and Presidents-Elect was presided over by Mrs. Yaguda. She directed special emphasis to Health Education of Children and youth of school age for the coming year.

One of the current problems, Venereal Diseases, was brought to the attention of the group by a film for adult groups to present the problem "Dance Little Children", and the companion film "A quarter Million Teen-Agers" for teen-age youth.

Other committee chairmen showing the need for special emphasis this year for Health Education for our school age children were Mental Health, Safety-Disaster Preparedness and Health Careers.

Mrs. G. W. Kelly, *President*

Anniversaries Are Cause to Reminisce

Northampton-Accomack

The Woman's Auxiliary to the Northampton-Accomack Medical Societies celebrated their *thirtieth anniversary* by honoring their twelve living charter members on Tuesday, April 19th, at the home of Mrs. Raymond K. Brown of Eastville. The twenty charter members (eight now deceased) were honored by the presentation of Pictorial Symbol properly framed for hanging in Northampton-Accomack Memorial Hospital. This symbol acknowledges the founders as follows:

Woman's Auxiliary to the
Northampton-Accomack
Medical Society

Mrs. Harry L. Denoon was the first president of the Auxiliary when it was organized, March 19, 1936.

Mrs. Franklin Wilson of Norfolk, who was State President 1936-37 and Mrs. Southgate Leigh, Sr., of Norfolk who was State President in 1925-28, helped in the formation of the organization with twenty charter members.

Ames, Mrs. Sheppard K., Cape Charles
Cosby, Mrs. William L., Painter
Critcher, Mrs. C. E., New Church
*DeCormis, Mrs. Joseph L., Accomack, (State President 1947-48)
*Denoon, Mrs. Harry L., Nassawadox
*Edmonds, Mrs. Fred, Accomack
*Fletcher, Mrs. O. Richard, Sanford
Fosque, Mrs. G. L., Onancock
Green, Mrs. William T., Jr., Nassawadox
Hamilton, Mrs. John R., Nassawadox
Henderson, Mrs. W. Carey, Nassawadox
*Hiden, Mrs. J. H., Pungoteague
*Holland, Mrs. Griffin W., Eastville (State President 1940-41)
*Jackson, Mrs. J. Walker, Sr., Shadyside
Kellam, Mrs. Sydney S., Cape Charles
Mears, Mrs. Burleigh, Sr., Belle Haven
Robertson, Mrs. John W., Onancock
Sturgis, Mrs. William J., Sr., Nassawadox
Trower, Mrs. Holland, Eastville
*White, Mrs. Rooker J., Keller

*Deceased

30th Anniversary March 19, 1966

In 1937, Mrs. Griffin W. Holland of Eastville was presented a silver vase at the State convention for having the largest percentage representation registered at convention, an honor they held for three years. This, too, is displayed at Northampton-Accomack Hospital.

This auxiliary supports two local projects: The Grace Wilkins Holland Memorial Fund is a yearly contribution which has furnished and maintained a room at the Northampton-Accomack Memorial Hospital. A bronze plaque on the door acknowledges the auxiliary. The second project is a one hundred dollar scholarship yearly to a student interested in a career in medicine who is attending the University of Virginia Branch located at Wallops Station, Virginia.

Happy anniversary to the thirty-two members of this auxiliary and congratulations from all!

Arlington

Twenty years ago, in 1946, it became apparent that there was a need for an auxiliary to the Arlington County Medical Society. A small group of doctors wives, who had been getting together on the night of the medical society meetings, decided to organize in order to promote friendliness among the medical family. A charter was secured and Mrs. Albert J. Orlosky was elected the first president. The auxiliary meets the second Tuesday of each month from September through May.

Quite naturally, the auxiliary chose the then new Arlington Hospital as their primary philanthropic endeavor and over the years has contributed nearly $15,000.00 to it. From the proceeds of various types of benefits, they have furnished a four-bed ward, a doctor's call board, decorated the doctors' lounge several times, bought hospital linens and various furnishings for the nurses home. This year at the annual luncheon-fashion show, the hospital administrator was presented with a check for $1000.00 toward the building fund and the hospital auxiliary received a check for $340.00 to purchase a gift cart.

The auxiliary has lent a helping hand in the form of contributions to the Visiting Nurses, AMAERF, Medico Project Hope and many disease fighting organizations but the organization is proudest of the projects in which the members actually participate.

Their adopted family of five children is clothed at various times and provided medical care. The handicraft sale each Christmas for the TB Association gives these members a chance to become salesmen. Many women provide transportation for the elderly to and from the Senior Citizens Day Center and they have promoted the Health Careers through essay contests and tours of hospitals and laboratories. This year they plan to aid the Heart Association in a seminar for high school students.

The Bowling League in which they combine forces with the Dental Auxiliary affords relaxation for many and the Tri-County luncheon and dinner dance afford the members a chance to better know their neighbors.

The auxiliary has grown from thirty to one hundred and six members and has provided the State auxiliary with officers and many committee chairmen and very proudly a State President, Mrs. Mervin W. Glover (1955-56).

A Happy Anniversary to the one hundred and six members and congratulations from all.

Editorial . . .

British Medicine - 1966 Style

AN UNEXPECTED VISIT to England this summer gave your editor an opportunity to compare British medicine today with the impressions he received last year. Superficially the British have changed but little. Perhaps more men are wearing beards, their hair is generally a little longer, and the women's skirts are undeniably shorter. On the other hand, the medical picture has worsened considerably.

This trip coincided with the most recent British financial crisis which came to a head the latter part of July. The result was a general wage freeze which threatens, and probably will wipe out, the anticipated pay raise for the general practitioner. About two years ago an independent committee under Lord Kindersley was set up to deal with the protests of 18,000 generalists who threatened to quit the National Health Service. If they had withdrawn the entire socialistic medical scheme undoubtedly would have collapsed. After 18 months of deliberation the committee decided the general practitioners should receive a raise of $56 a week. These recommendations were accepted by the Prime Minister. Almost immediately the award was halved to $28 the first year—the rest to follow the next year. Now it appears the wage freeze will further reduce the award by an additional $14 a week. This means that unless an exception is made in the case of physicians they stand to receive a raise of only $56 a month.

The picture is further beclouded by commitments physicians had already made before the freeze for extra staff and improved office facilities. The original request for a raise was based in part on these needs. Doctors are hoping to use this loop-hole as a bartering point that will permit them to be partially excluded from the freeze. At this writing a decision has not been reached, but if the past is a guide for the future, there is little cause to expect it to be a favorable one.

The specialist does not appear to feel the pinch to quite the same degree as the general practitioner. This is due in part to a slightly better overall pay scale. They are also permitted a limited number of consultations. Another factor that softens their judgment regarding medicine under the National Health Service is the simple fact that the British physician, whether he be a generalist or a specialist, does not fully realize the inferior type of medicine he practices or the poor facilities at his disposal. Their hospitals are woefully antiquated and few beds have been added since World War II.

An English ophthalmologist, who was asked about the hospital bed shortage, said it was "not too bad." According to him, a patient with a non-emergency surgical condition, as the repair of a hernia, or the need for a tonsillectomy "could hope to be admitted within a year". When the secretary of the Royal College of Surgeons was asked to verify this he smiled blandly and said that "some cases take longer than others". Ironically, when the Minister of Health recently announced plans for a 56 million dollar hospital complex in the Brighton area a large group of local physicians protested, for they claimed the "scheme" was three times as costly as necessary and, furthermore, would be "out of date" before it could be completed. Such is the sad story under socialized medicine.

Many British physicians are not fully aware that we too have embarked on this same long, drab road of no return. A fourth of the graduates of English and Scottish medical schools have emigrated in recent years and there is no immediate evidence of a change in this pattern. However the more cautious graduates are now taking their certifying boards prior to leaving. This would permit their return to their homeland under more advantageous conditions if the grass in America proves less green than they had hoped.

A visit to the Hunterian Museum, where about one-half of the specimens collected and prepared by John Hunter two centuries ago survived the bombing of 1941, reminds the visitor of England's medical glory days under the old unsocialized system. Even the patients grew larger in that happy untrammeled era. The skeleton of the Irish giant measured well over eight feet while his American rival from Boston, also on display, was considerably smaller. This gave our guide considerable satisfaction, and in a measure, made up for the outcome of the Cassius Clay fight three nights earlier. British pride is easily wounded so no mention was made of big John Naponick, the University of Virginia's right tackle, who is a close second to the Irish giant in size and has the added advantage of being still alive.

But to return to our British physician and his present plight. His problems under the current socialistic government do not necessarily end with his death. On July 28, Dr. John Renwick of Birmingham, England, died and left an estate, largely inherited no doubt, of $377,500. The death duties were $189,430 or more than one-half of the total. Let us hope President Johnson did not see this item or he doubtless will include a similar provision for physicians in his next Medicare bill.

H. J. W.

Quo Vadis? - Shades of Flexner

> "I find the greatest thing in this world is not so much where we stand as in what direction we are moving."
>
> —Oliver Wendell Holmes

THE QUANDARY IMPLICIT in the first two words of the above title is, or should be, constantly with us as doctors and as citizens at large alike. It is axiomatic that in the absence of advancement all that is human must retrogress.

Recently, upon overtaking a car bearing a District of Columbia license plate in the conventional place, a second regulation size license plate propped conspicuously against the rear glass window was noticed. This other license plate bore the words: "ANTARCTICA—The World's Last Frontier". While, as a cliche, this legend might have possessed some merit, actually it was wholly fallacious. Even in a purely physical sense, Antarctica is not a last frontier. There are vast frontiers beneath the surface of the earth and beneath the waters of the world, to say nothing of the limitless frontiers of outer space.

These observations have only an indirect relevance to the intent of this editorial, and would not be mentioned except for the fact that how far, how fast and in what manner these frontiers may be explored will, in a vitally indispensable sense, depend upon medical knowledge and upon the sedulity and determination of medical researchers.

Relative to frontiers primarily, if not solely, native to the realm of the profession of medicine itself, there is no denying that medical frontiers are perpetually with us. They are ubiquitious and are forever changing.

Throughout the history of modern medicine the response of medical research to the demands of a particular time, epoch or incident along the pathway civilization's pageant has progressed has been admirable.

When, slightly over two decades ago, nuclear fission became a fait accompli, it was immediately realized by the more sensitive exponents of medical science that the advent of atomic energy was bringing to the profession of medicine, in a greater measure than to any other profession, not only a bewildering array of new problems and inescapable responsibilities of an awesome magnitude, but fascinatingly challenging and promising potentialities of investigating the processes of life itself and of treating the ills that beset the animal kingdom, and particularly mankind. To these responsibilities and potentialities the profession has given, and is giving, a brilliant account.

The dawn of space travel and exploration likewise, promptly awakened in medical minds an awareness that here again was a frontier in the conquest of which it would devolve upon medical research to assume a

major and utterly essential role. This role it also is fulfilling in a highly efficient manner.

There comes to the fore, however, a medical frontier with respect to which the situation would appear to be in a state of flux and not well in hand. Reference is made to the matter of medical education. This is not a new frontier, but one that has more or less persistently demanded attention all along medicine's way.

It has been fifty-six years since a report on medical education in the United States was issued by a commission, formed in 1908, by the Carnegie Foundation for the Advancement of Teaching, and that was headed by Abraham Flexner, a revered scholar but not a doctor of medicine.

Flexner and his associates focused attention chiefly upon scandalously low admission and teaching standards, poor physical facilities and appurtenances in certain so-called medical schools, lack of uniformity or standardization of curriculae, and commercialism. The sum and substance of the Flexner report was so reprehensible as to revolutionize medical education in America.

Over the years nevertheless, the mainstream of time, events and conditions has so changed as to create medical educational problems of a different nature, though of no less genuine import than those that existed in the first decade of this century when the population of the United States was 70 million in contrast to its present population of 200 million. It should moreover be borne in mind that the medical students being trained today constitute those who will be serving the nation as physicians, surgeons and in medicine's ancillary branches in the year 2,000.

For over 25 years there have been what Woodrow Wilson termed "the more sensitive organs of society, the parts first awakened to consciousness of a situation" who have contended—but to little or no avail—that the time was at hand when a survey of America's medical needs and the institution of significant changes upon a number of counts were highly in order.

It will be seven years this October since a most comprehensive treatise under the title, "Physicians for a Growing America" was published by the U. S. Department of Health, Education, and Welfare. The report was that of a study group designated by the Surgeon General of the U. S. Public Health Service. Its membership comprised 21 paragons of the healing arts and teaching professions mostly, and with a former Executive Director of the Council of State Governments, Mr. Frank Bane, as its Chairman. This report, spread upon 95 pages, dealt mainly with a detailed presentation of facts and figures, but did not undertake to offer remedies for a state of affairs the study group as a whole viewed with alarm.

That less than an optimal amount of attention and action was generated by this "Physicians for a Growing America" document has been attested by the publication, within the past year, of another 95 page booklet entitled, "Medical Education Reconsidered." This is a report of a 35 member committee—a "Summer Study Group"—with Dr. Oliver

Cope of the Massachusetts General Hospital and Professor Jerrold Zachariasis of the Massachusetts Institute of Technology as the principal steering agents. This group, appointed at the instance of the American Surgical Association, was supported by the Carnegie Corporation of New York, the Richard King Melon Foundation and again, the U. S. Public Health Service.

In this report mention is made of other recent important studies of relevance to medical education. Those of the Wooldridge and the Coggeshall committees, in particular, are cited. In fact so many studies have been made and so many reports submitted as to remind one of a jingle that sprang from some source during World War II, apropos the surveys, ad nauseam, to which the Armed Services were subjected: "Yet they sent a checker and next a checker's checker; still nothing much was disclosed as being wrong. But then they sent a checker's checker's checker to check the checker's checker, and the process was laborious and long."

Definitive recommendations designed to effect significant changes for a more realistic modus operandi in medical education's current teaching program were indeed made by the so-called "Summer Study Group". Actually four curriculum plans, "A", "B", "C", and "D", were offered by four subcommittees of the group.

Serious faults in various quarters will undoubtedly be found with all of these plans. The most patent fault, in all probability, will pertain to the idea of pushing the basic sciences, conventionally an important, integral part of the medical curriculum, down or back to the academic or college level, at the expense of the liberal arts, humanities and social sciences. The basic medical sciences do not belong anywhere except in the medical curriculum. Moreover, it is a reasonable knowledge of such subjects as history, philosophy, languages and literature that makes the difference between a collegiately educated individual and a trainee of a trade school—precisely the brand of doctor so vehemently denounced by the Flexner report of 1910.

By extending the course of study from nine to 11 months a year, and by beginning the day at 6 or 7 A. M.—thus taking advantage of its best hours—and continuing to 5 P. M. week days and 1 P. M. on Saturdays, courses requisite to both baccalaureate and M.D. degrees could be completed in five years. With one year in an interne and one in a residency status, the formal and apprentice training of a doctor could be reduced from the current 14 or 15 years to seven years.

For medical education, to meet the demands of the times, a forthright and major adjustment would appear to be becoming increasingly inevitable. Along with our society in general, the profession of medicine today is caught up in an explosive whirlwind of science, technology, sociology and culture. The necessity for a large increase in the number of doctors in America to satisfy the mounting demands of the civilian population as well as those of our national defense establishment and to fulfill the requirements of research is growing progressively more urgent. A less intransigent attitude on the part of medical school administrators toward prospective medical students, and a more appealing inducement

to the youth of the nation to turn to medicine as a career is mandatory. The physical facilities for the basic training of medical students must be greatly increased. A revision in the training programs or curriculae in medical schools—in some respects drastic in degree, perhaps—will be imperative.

A liberal supply of teachers endowed with realistically intelligent, objective, agile, durable and dedicated minds in sturdy bodies constitutes a fundamental requirement, if a substantial basis for action is to established. This need can be filled—probably not readily—but it can be filled. How long it will take will be determined largely by the urgency of the situation. The source of supply is within our midst. From both a qualitative and quantitative standpoint modern teaching aids greatly facilitate teaching. This albeit, is not to say that a close relationship between teacher and student isn't as advantageous and as desirable as it has always been. The teachers, if sufficiently motivated, will to an appreciable extent, teach themselves, and each other. The only principle here involved that will not lend itself to expediency is the element of time itself. It cannot be accelerated, retarded or otherwise "jimmied". It can only be spent, and it is how we spend it that determines the pay-off.

There may be some question relative to the capability of the human mind to comprehend and rationally to deal with the melange of complexities that comprise the woof and warp of modern life and the kind and measure of a medical education contemporarily exacted of a doctor of medicine. We know that but for man's adaptability—his propensity for meeting challenges—and his ability to survive hazards, his species could long ago have become extinct. Man's enormous capacity for assimilating knowledge, for substituting new facts for old ideas, and that this capacity is far from having been taxed to its limit are well founded concepts. It therefore follows that within the present compass of the cultural bounds of the human species there must be great resources of mental potential lying idle, so to speak, that can be tapped.

If we as doctors—more specifically, if those who comprise the Association of American Medical Colleges and the various other agencies of organized medicine in this country—cannot evolve an educational program that will meet the demands of time and circumstance, and without foisting off onto a student's academic years a sizable and important part of what is distinctly medicine's responsibility, let them be reminded of the declaration of Cassius to Brutus: "Men at sometimes are masters of their fate. The fault, dear Brutus, is not with our stars, but with ourselves."

May the nation be spared the necessity of seeking out and calling upon another Abraham Flexner, again to set medicine's house in order.

H. Lamont Pugh, M.D.

News . . . .

Calendar of Events

6TH ANNUAL CHARLOTTE POSTGRADUATE SEMINAR—Presbyterian Hospital Auditorium—Charlotte, N. C.—September 21-22, 1966.

TENNESSEE VALLEY MEDICAL ASSEMBLY—Tivoi Theatre—Chattanooga, Tennessee—September 26-27, 1966.

PEDIATRIC POST-GRADUATE CONFERENCE ON PEDIATRIC CARDIOLOGY—University of Virginia School of Medicine—Charlottesville—October 6-8, 1966.

A SYMPOSIUM ON ARTHRITIS—Sponsored by Tidewater Chapter of the Arthritis Foundation—Lake Wright Motor Hotel—Norfolk—October 7-8, 1966.

3RD NATIONAL CONGRESS ON MEDICAL QUACKERY—Pick-Congress Hotel—Chicago, Illinois—October 7-8, 1966.

AMERICAN COLLEGE OF SURGEONS—Annual Clinical Congress—San Francisco, California—October 10-14, 1966.

AMERICAN CANCER SOCIETY, VIRGINIA DIVISION, INC.—Annual Meeting—Hotel Jefferson—Richmond—October 13, 1966.

COURSE ON "INDUSTRIAL MEDICINE: THE DOCTOR'S ROLE IN OCCUPATIONAL HEALTH"—Sponsored by Mound Park Hospital Foundation and Department of Medical Education of Mound Park Hospital—St. Petersburg, Florida—October 20-22, 1966. (18 hours)

PROGRAM ON GASTROENTEROLOGY—University of Virginia School of Medicine—Charlottesville—October 28. (6 hours—6 guest professors)

VIRGINIA HOSPITAL ASSOCIATION—Annual Meeting—Hotel Roanoke—Roanoke—November 3-4, 1966.

INTERNATIONAL COLLEGE OF SURGEONS, VIRGINIA STATE SURGICAL DIVISION—Meeting at 1:00 p.m.—Williamsburg Lodge—November 6, 1966.

THE MEDICAL SOCIETY OF VIRGINIA—Annual Meeting—Williamsburg—November 6-9, 1966.

4TH ANNUAL KIDNEY SYMPOSIUM—Sponsored by Virginia Kidney Foundation—Richmond Academy of Medicine, Richmond—November 11, 1966.

CONFERENCE ON HANDICAPPING CONDITIONS OF CHILDHOOD—Sponsored by Virginia Council on Health and Medical Care at request of the Nemours Foundation—Charlottesville—November 16-18, 1966.

PULMONARY PROBLEMS—University of Virginia School of Medicine—Charlottesville—November 18-19, 1966. (9 hours)

AMA CLINICAL CONVENTION—Las Vagas, Nevada—November 27-30, 1966.

CONFERENCE ON POPULATION GROWTH—Hotel Marshall—Richmond—December 6, 1966.

SEMINAR ON PRACTICAL ASPECTS OF NEUROLOGY AND PSYCHIATRY FOR THE GENERAL PRACTITIONER—Sponsored by the Department of Neurology and Psychiatry and the Office of Continuing Education of the University of Virginia School of Medicine—The Homestead—Hot Springs—January 26-28, 1967.

New Members.

The following members were received into The Medical Society of Virginia in July:

Stuart Ashman, M.D., Virginia Beach
Charles L. Baird, Jr., M.D., Richmond
T. David Elder, M.D., Norfolk
Frank D. Fusco, M.D., McLean
Robert L. Gleason, M.D., Hampton
Edgar H. Soifer, M.D., Arlington
Bertram L. Warren, Jr., M.D., Virginia Beach
Harry P. Williams, M.D., Martinsville

Virginia Diabetes Association.

At the annual meeting of this Association in May, Dr. Henry B. Mulholland, Charlottesville, was installed as president; Dr. John W. Davis, Jr., Lynchburg, first vice-president; Dr. H. St. George Tucker, Richmond, second vice-president; and Dr. Bernard H. Miller, Norfolk, secretary-treasurer.

Dr. John Staige Davis, IV,

Assistant professor of internal medicine and assistant professor of preventive medicine, will spend a year in Italy working as a visiting investigator at the Chair of Immunology of the University of Milan. Dr. Davis, his wife and their five children, left early in July and will return to the University in August 1967.

While in Milan, Dr. Davis will spend the majority of his time in the laboratory of Dr. Benvenuto Pernis at the Cattedra di Immunologia dell'Universita degli Studi di Milano, "primarily learning new techniques and soaking up new ideas." Dr. Pernis is an internationally known immunologist and immuno-chemist who has been actively engaged in research on antibody productions.

Dr. Herbert C. Lee,

Richmond, will be one of the guest speakers of the Medical Conference of the C. & P. Telephone Companies in Washington, D. C., October 17-19.

Dr. Alexander Retires.

Dr. H. C. Alexander, Farmville, retired from practice on August 1st. He has been in practice for forty years and has served thousands of patients throughout the Southside area where he has specialized in eye, ear, nose and throat.

Hospital Staff.

Dr. M. L. Lacy has been elected chief of the staff of the Community Memorial Hospital in South Hill. Dr. W. J. Ozlin is assistant chief of staff and Dr. I. W. Vavedo secretary-treasurer.

Management of the High Risk Newborn Infant

The Department of Pediatrics, University of Virginia School of Medicine, in cooperation with the Virginia State Department of Health, will conduct a series of post-graduate courses for physicians and nurses responsible for the management of nursery units in community hospitals. The course will stress recent advances in the pathophysiology of premature and other high risk newborn infants, as well as the practical aspects of diagnosis and management of common problems of newborn infants.

Each session will be open for a minimum of three and a maximum of six nurse-physician teams. Preference will be given to those nurses and physicians responsible for nursery units in hospitals in the State of Virginia.

The session for nurses will last two weeks, and the physicians' participation will be for the last three days of the session.

The goal of the course is primarily to improve the management of the premature or complicated high-risk newborn infant within the existing framework of the general nursery unit of community hospitals.

Expenses will be covered when indicated by the Maternal and Child Health Bureau of Virginia State Health Department.

Physicians who are interested in such a course, may contact the Director of Maternal and Child Health, Virginia State Department of Health, Blanton Building, Richmond.

Internist Desires Association.

Board eligible internist (boards in October) desires association with group or physician of similar training or experience in Northern Virginia area or Washington, D. C. Write #110, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. *(Adv.)*

Special Psychiatric Training Programs.

Stipend $12,000. per year. Program A—designed for practicing physicians who wish to take one year of full-time graduate study in psychiatry and then return to practice. Program B—involves three full years of psychiatric residency and is designed to prepare candidate for specialty board examinations. Applicants for either of these programs must be in some form of practice other than psychiatry for a minimal period of four years excluding internship. Training program is eclectically oriented, encompassing general psychiatry with elective programs in child psychiatry, research, psychosomatic medicine and community psychiatry. Applications now being accepted for July, 1967. For further information write Dr. William M. Sheppe, Jr., Chairman, Graduate Training Committee, Box 267, University of Virginia Hospital, Charlottesville, Virginia. *(Adv.)*

Student Health Physician

Wanted for State Rehabilitation Hospital in beautiful Shenandoah Valley of Virginia. General practitioner or internist to work with internist director. Basic salary $12,000.00 with regular increments. Virginia license necessary. Contact director of medical services, Woodrow Wilson Rehabilitation Center, Fishersville, Virginia. *(Adv.)*

Wanted.

Student Health Physician at Virginia Polytechnic Institute, Blacksburg. For further information write or call Emory R. Irvin, M. D., Student Health Service. VPI, Blacksburg, Virginia. Phone 552-6444. *(Adv.)*

Obituaries . . . .

Dr. Harry Benjamin Stone, Sr.,

Roanoke, died July 15th, at the age of eighty-seven. He was a graduate of the Medical College of Virginia in 1903 and practiced for eight years in Ashland, West Virginia. He then specialized in ophthalmology and otolaryngology and located in Roanoke in 1912. Dr. Stone was a charter member and past president of the Virginia Society of Ophthalmology and Otolaryngology and the Roanoke Academy of Medicine. He was a past president of the Kiwanis Club and served on the Board of Trustees of Hampden-Sydney College for more than twenty years. Dr. Stone had been a member of The Medical Society of Virginia for sixty-three years.

His wife, two sons and three daughters survive him. His sons are Dr. Stone, Jr., and Dr. William Conrad Stone, both of Roanoke.

Dr. Lewis George Richards,

Good View, died July 4th. He was ninety-three years of age and a graduate of the former University College of Medicine, Richmond, in 1900. Dr. Richards located in Roanoke in 1907 and was one of the four doctors who started the Shenandoah Hospital. In 1956, he came out of retirement and opened a practice at Chamblissburg in Bedford County. Dr. Richards was a past president of the Roanoke Academy of Medicine and had been a member of The Medical Society of Virginia for fifty-three years.

A son, Dr. L. G. Richards, Jr., and a daughter, both of Roanoke, survive him.

Dr. Tom Albert Williams,

Middletown, died July 17th, at the age of seventy-six. He was a graduate of the

former University College of Medicine, Richmond, in 1913, and located for practice in Middletown in 1915. Dr. Williams joined The Medical Society of Virginia in 1913.

His wife and two daughters survive him.

Dr. Gordon Douglas Hall,

Richmond, died July 11th. He was fifty-four years of age and received his medical degree from the Medical College of Virginia in 1938, having previously received a B.S. in pharmacy. Dr. Hall was a member of The Medical Society of Virginia, having joined in 1939.

His wife, two daughters and a son survive him.

Dr. William Franklin Grigg, Jr.,

Died July 15th at the age of forty-nine. He graduated from the Medical College of Virginia in 1942. Dr. Grigg served at Oteen Hospital, Oteen, North Carolina, and Georgetown University Hospital, Washington, before locating in Richmond in 1949. He served with the U. S. Army during World War II and was a major in the Civil Air Patrol. Dr. Grigg was president of the Richmond Ham Radio Club. He had been a member of The Medical Society of Virginia for fifteen years.

Dr. Grigg is survived by his wife and two sons. Mrs. Grigg is a former president of the Woman's Auxiliary to The Medical Society of Virginia.

Dr. Robert Alexander Bell,

Arlington, died June 26th following a heart attack. He was fifty-nine years of age and a graduate in medicine from the University of Iowa in 1931. Dr. Bell was commissioned in the Navy following his graduation and retired as Captain in 1955, following which he located in Arlington. He had been a member of The Medical Society of Virginia for ten years.

His wife, two sons and a daughter survive him.



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2-5 years	6 mg.	1 tsp. 3 times daily
5-8 years	8 mg.	1 tsp. 4 times daily
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Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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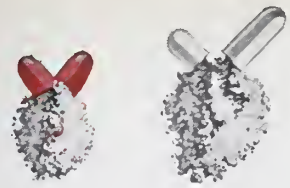
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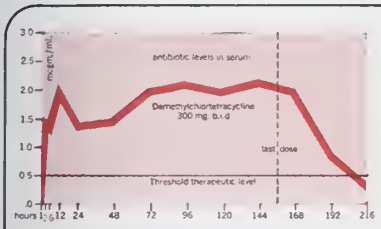


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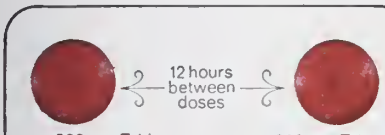
Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

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References: 1. Spielman, A. D.: *Curr. Therap. Res.* 3:235 (June) 1961. 2. Herschfus, J. A.; Bresnick, E.; Levinson, L.; and Segal, M. S.: *Ann. Allergy* 9:769 (Nov.-Dec.) 1951.

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*Schiller, I. W., and Lowell, F. C.: New England J. Med. 261:478, 1959.

Contraindications: Patients hypersensitive to antihistamines. Not recommended for use during pregnancy.

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1. Riese, J. A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

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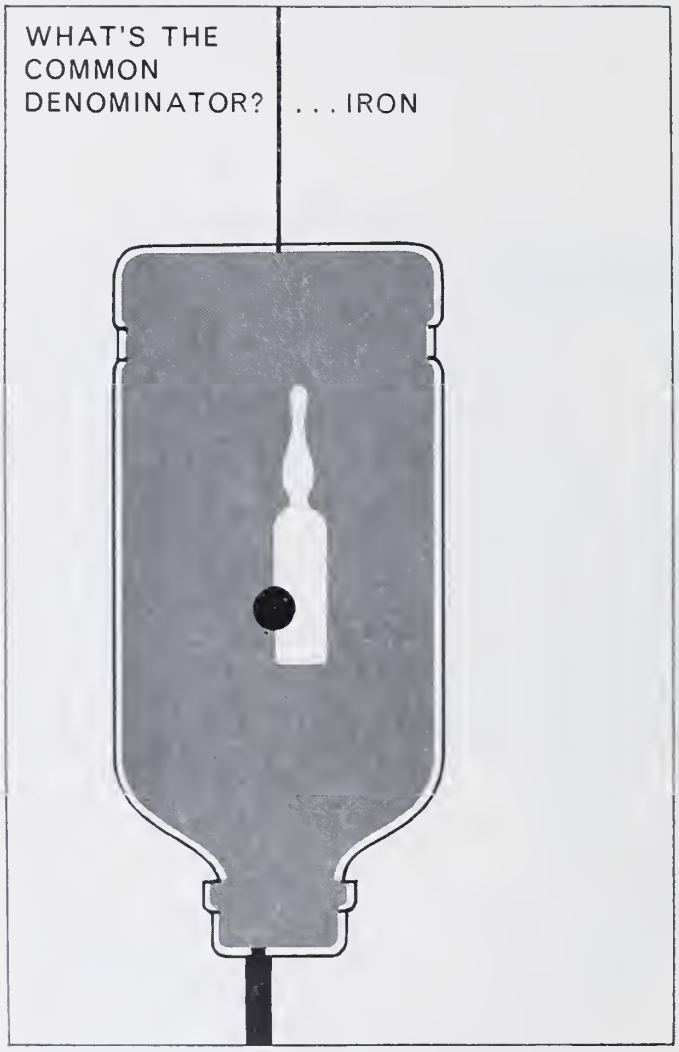
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ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylatoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

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Side Effects: Nausea, flushing, constipation, skin rash, muscle cramps and gastric discomfort have occasionally been noted; rarely thrombocytopenia and bone marrow depression, photosensitivity, cholestatic jaundice, pancreatitis, perimacular edema, gout and diabetes have been caused by the administration of thiazides.

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2 mg. or 4 mg. and
Reserpine 0.1 mg.

Usual adult dose: One tablet twice daily. **Precautions and side effects:** Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing steroids, should be observed for signs of hypokalemia. With thiazides, electrolyte depletion, diabetes, gout, granulopenia, nausea, pancreatitis, cholestatic jaundice, flushing, mild muscle cramps, constipation, photosensitivity, acute myopia, perimacular edema, paresthesias, neonatal bone marrow depression in infants of mothers who received thiazides during pregnancy, skin rash or purpura with or without thrombocytopenia, may occur. With reserpine, untoward effects may include depression, peptic ulcer and bronchial asthma. Withdraw medication at least 7 days prior to electroshock therapy, 2 weeks prior to elective surgery.

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mood elevation

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Program

DESOXYN® Gradumet® (methamphetamine hydrochloride)

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Front Side

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15 mg. Methamphetamine Hydrochloride,
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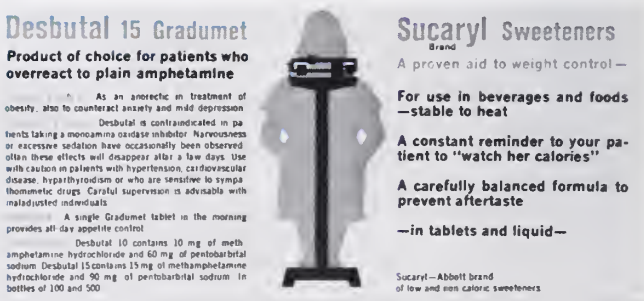


Front Side

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economy

Patients, in many cases, save enough to get five weeks of medication for the price of four, compared to other leading long-release anorectics.

CONTRAINDICATION: Desoxyn and Desbutal are contraindicated in patients taking a monoamine oxidase inhibitor.

PRECAUTIONS: Use with caution in patients with hypertension, cardiovascular disease, hyperthyroidism, old age, or those sensitive to sympathomimetic drugs or ephedrine and its derivatives. Careful supervision is advisable with maladjusted individuals.

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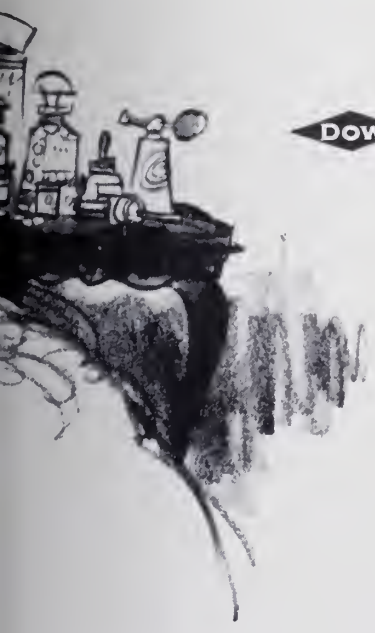
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I'm sure I'll start coughing again.

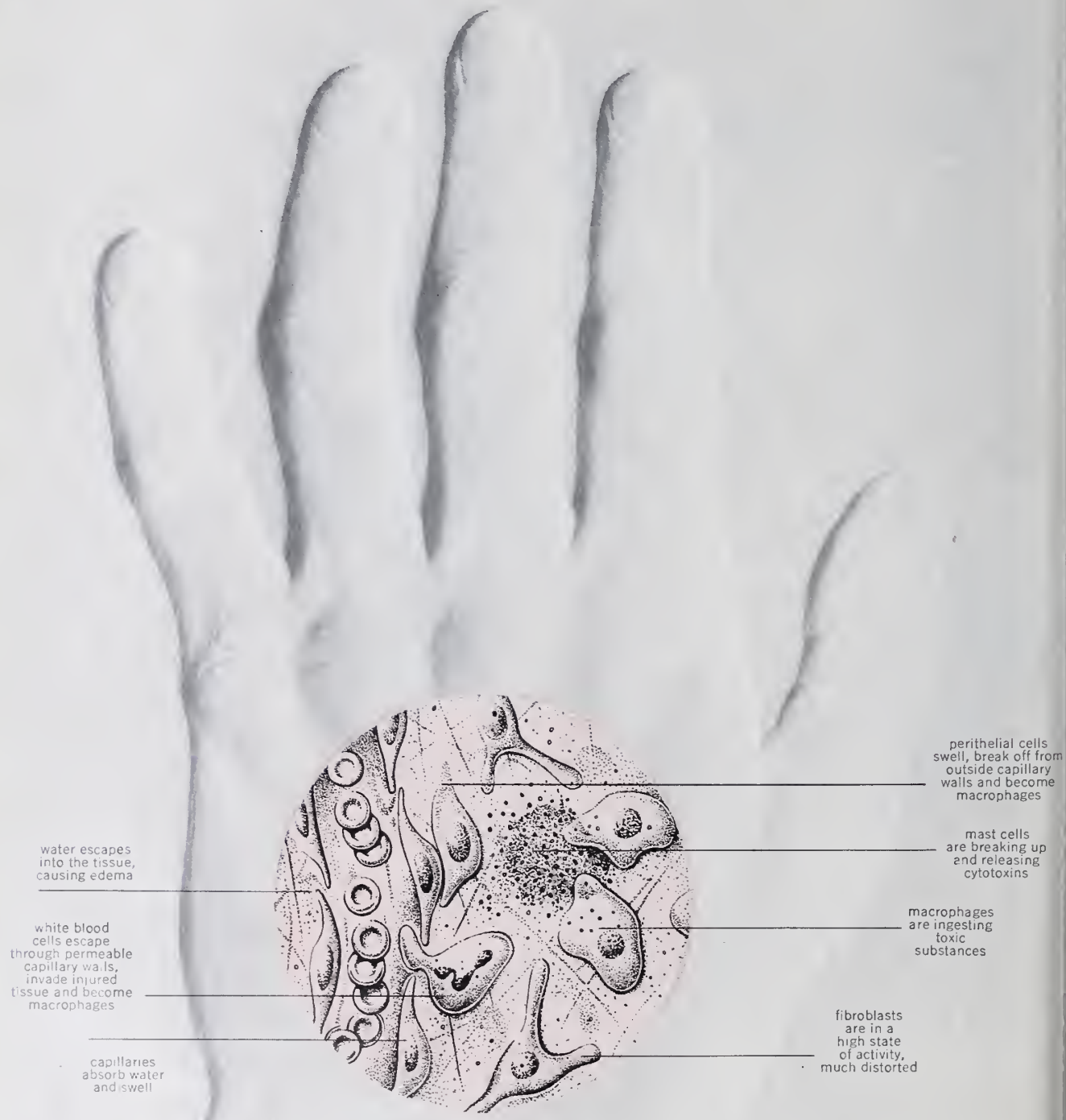
Some patients don't realize there's more to a cough than meets the ear.
If it's the useless, exhausting type of cough that often accompanies respiratory infection or allergy, you can provide prompt relief with Novahistine DH. Its decongestant-antitussive action controls frequency and intensity of cough spasms without abolishing cough reflex. And the fresh, grape flavor of Novahistine DH appeals to children and adults alike.
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NOVAHISTINE® EXPECTORANT



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Inflammatory reaction after injury

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when complicated by infection

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Contraindications: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of its components. **Precautions:** Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. The neomycin in Neo-Synalar Cream rarely produces allergic reactions. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. **Side Effects:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions.

References: 1. Kanee, B.: Canad Med Ass J 88:999 (May 18) 1963. 2. Scholtz, J. R.: Calif Med 95:224 (Oct.) 1961. 3. Jansen, G. T., Dillaha, C. J., and Honeycutt, W. M.: Arch Derm 92:283 (Sept.) 1965.

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MOLECULAR REMODELING—

laboratory exercise or clinical necessity?

More than twenty-five years have passed since the discovery of the diuretic activity of sulfanilamide started pharmacologists on a succession of molecular remodelings to find the ideal diuretic.

Diuresis—a sought-after clinical effect from an unwanted side effect

It started in 1937 when a clinician reported that the administration of a sulfonamide was sometimes accompanied by an unexplainable side effect—metabolic acidosis.[1] Three years later the side effect was explained. The sulfonamide radical of sulfanilamide inhibited carbonic anhydrase,[2] the enzyme responsible for converting carbon dioxide and water to hydrogen ions and bicarbonate ions.

Later, other investigators showed by dog experiments that metabolic acidosis probably resulted when the inhibition of carbonic anhydrase upset the exchange of hydrogen and sodium ions, causing increased excretion of sodium as the bicarbonate.[3]

It was twelve long years after the first report of the unexplainable side effect (metabolic acidosis) that it was finally shown that large doses of sulfanilamide administered to edematous patients were indeed capable of promoting diuresis.[4] However, the possibility of toxic effects from its prolonged use and its relatively weak diuretic action made it impractical for clinical use as a diuretic.[5]

Because the inhibition of carbonic anhydrase seemed to be the key to effective diuresis, investigators began to look for more potent enzyme inhibitors —in the hopes that they would be more effective diuretics.

The most important of these early compounds, acetazolamide, enjoyed several years of fairly wide clinical use.

Its carbonic anhydrase inhibitory activity was several hundred times greater than that of sulfanilamide.[6] The increase in inhibitory activity, however, increased not only the excretion of sodium and bicarbonate ions, but also the excretion of potassium.[7] And, like its predecessor, acetazolamide precipitated mild acidosis. Its prolonged use could result in hypokalemic acidosis.[7]

The 'thiazides'—an answer to the metabolic acidosis caused by carbonic anhydrase inhibition

Despite the fact that the sulfonamide group appeared to be responsible for carbonic anhydrase inhibition which in turn appeared to be responsible for diuresis, investigators began to synthesize compounds with structural alterations to the sulfonamide group.

The first major breakthrough came with the synthesis of chlorothiazide. Altering the sulfonamide group did indeed alter the ability of chlorothiazide to inhibit carbonic anhydrase—it was only 1/10th as potent as acetazolamide in inhibiting the enzyme.[8] Despite the drop in inhibitory potency, however, chlorothiazide proved to be an effective diuretic—an observation that led to the conclusion that its diuretic action was due to some mechanism other than its action on carbonic anhydrase.[9, 10]

For effective diuresis, chlorothiazide was administered in daily dosages ranging from 250 to 2000 mg.[11] It increased the excretion of sodium and chloride; and, to a lesser extent, potassium and bicarbonate.[11] The excretion of potassium appeared to be maximal at higher dose levels at which, theoretically, the carbonic anhydrase inhibitory effect is more active.[11] Its prolonged use, therefore, could sometimes result in metabolic hypokalemic, hypochloremic alkalosis.[7]

Naturetin—effective diuresis with more favorable electrolyte balance

Other thiazides followed—with improvements being aimed at two particular areas: 1. attempts to increase diuretic action in relation to the milligram potency of the drug, and 2. attempts at a more favorable sodium potassium ratio in the urine, i.e., to decrease the excretion of potassium while maintaining the excretion of sodium.[12]

One of these, Naturetin, Squibb Bendroflumethiazide, has made advances on both these points. "By adding a 3-benzyl radical to hydroflumethiazide a rather dramatic reduction in dose range is accomplished. With this drug, effective sodium excretion is obtained with doses between 2.5 and 10 mg., which is a 200 to 1 ratio as compared to chlorothiazide..."[13]

Moreover, due probably to its virtual lack of carbonic anhydrase inhibition, Naturetin (bendroflumethiazide) has been shown to cause less potassium and bicarbonate loss and less alteration in urinary pH than either chlorothiazide or hydrochlorothiazide.

Naturetin is outstandingly effective not only in establishing, but also in maintaining, excretion of retained fluid in edematous patients. And its duration of action is sufficiently prolonged to allow a single daily administration in most patients. Naturetin is also an effective antihypertensive agent.

Contraindications: Severe renal impairment; previous hypersensitivity.

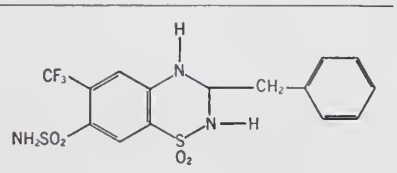
Warning: Ulcerative small bowel lesions have occurred with potassium-containing thiazide preparations or with enteric-coated potassium salts supplementally. Stop medication if abdominal pain, distension, nausea, vomiting, or G.I. bleeding occur.

Precautions: The dosage of ganglionic blocking agents, veratrum, or hydralazine when used concomitantly must be reduced by at least 50% to avoid orthostatic hypotension. Electrolyte disturbances are possible in cirrhotic or digitalized patients.

Side Effects: Bendroflumethiazide may cause increases in serum uric acid, unmask diabetes, increase glycemia and glycosuria in diabetic patients and may cause hypochloremic alkalosis, hypokalemia; cramps, pruritus, paresthesias, and rashes may occur.

Supplied: Naturetin (Squibb Bendroflumethiazide) 5 mg. and 2.5 mg. tablets. Also available Naturetin c K [Squibb Bendroflumethiazide (5 or 2.5 mg.) with Potassium Chloride (500 mg.)]. For full information, see Product Brief.

References: **1.** Southworth, H.: Proc. Soc. Exper. Biol. & Med. *36*:58, 1937. **2.** Mann, T. and Keilin, D.: Nature *146*:164, 1940. **3.** Pitts, R. F., and Alexander, R. S.: Am. J. Physiol. *144*:239, 1945. **4.** Schwartz, W. B.: New England J. Med. *240*:173, 1949. **5.** Friedberg, C. K., in Moyer, J. H., and Fuchs, M.: Edema Mechanisms and Management, Philadelphia, W. B. Saunders Co., 1960, p. 259. **6.** Cumming, J. R.; Tabachnick, E., and Seelig, M., in Moyer, J. H., and Fuchs, M.: op. cit., p. 254. **7.** Werko, L., in Moyer, J. H., and Fuchs, M.: op. cit., p. 188. **8.** Beyer, K. H., Jr., in Moyer, J. H., and Fuchs, M.: op. cit., p. 274. **9.** Maren, T. H., and Wiley, C. E.: J. Pharmacol. & Exper. Therap. *143*:230, 1964. **10.** Earley, L. E., and Orloff, J.: Ann. Rev. Med. *15*:149, 1964. **11.** Fuchs, M., and Mallin, S. R., in Moyer, J. H., and Fuchs, M.: op. cit., p. 276. **12.** Ford, R. V., in Moyer, J. H., and Fuchs, M.: op. cit., p. 290. **13.** cited in Fuchs, M., and Mallin, S. R. (ref. 11): op. cit., p. 283.



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1. Collective studies, Department of Medical Research, Winthrop Laboratories.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Warn against hazardous occupations requiring complete mental alertness. Use caution in administering to addiction-prone patients or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In elderly and debilitated and in children over five, limit dosage to smallest effective amount, increasing gradually as needed and tolerated. In general, concomitant use with other psychotropics is not recommended. Paradoxical reactions have been reported in psychiatric patients and hyperactive aggressive children. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically. Observe usual precautions in presence of impaired renal or hepatic function, impending depression and suicidal tendencies.

Adverse reactions: Drowsiness, ataxia and confusion may occur, especially in elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. Syncope occurs rarely. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis, jaundice and hepatic dysfunction) may develop occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy. Individual maintenance dosages should be determined.

Dosage: *Oral*—Adults: Mild to moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. Geriatric patients: 5 mg b.i.d. to q.i.d.

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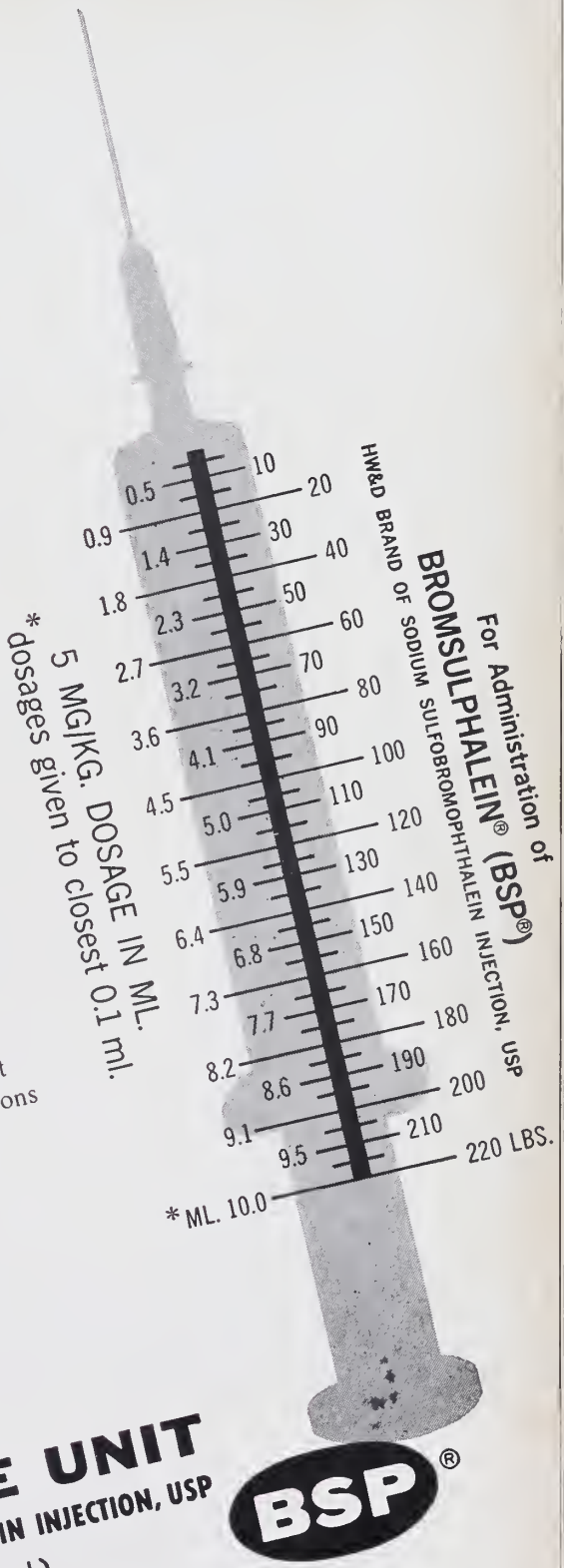
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(Founded by Landon B. Edwards, M.D., April, 1874)

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*Schiller, I. W., and Lowell, F. C.: New England J. Med. 261:478, 1959.

Contraindications: Patients hypersensitive to antihistamines. Not recommended for use during pregnancy.

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Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability, or excitement may be encountered.

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Side Effects: Side effects are uncommon—nausea, constipation, and drowsiness have been reported.

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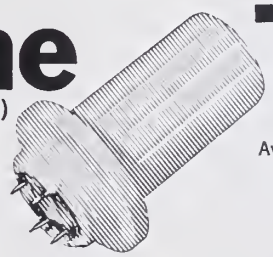
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"The main function of the carotid sinus is regulation of the blood pressure...."[1]

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Salutensin enhances the body's own mechanisms for lowering blood pressure. The veratrum component of Salutensin acts on the carotid sinus and myocardial receptors, initiating "...a reflex fall in blood pressure through a generalized vasodilation and fall in heart rate."[2] To achieve this reflex modification of hypertension, Salutensin utilizes protoveratrine A. In addition, to facilitate and maintain blood pressure reduction, Salutensin incorporates reserpine and a highly effective thiazide. In general, side effects have been reported infrequently but may include those listed in the therapeutic summary.

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Available: Prescription-size bottles of 60 tablets.

References: 1. Editorial: JAMA *191*:592 (Feb. 15) 1965. 2. Meilman, E., in Moyer, J.H.: Hypertension, Philadelphia, W.B. Saunders Company, 1959, p. 395.

BRISTOL THERAPEUTIC SUMMARY
For complete information consult Official Package Circular.
Indications: Essential hypertension.
Warnings: Small-bowel lesions (obstruction, hemorrhage, perforation) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs.
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Precautions: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss, which may cause digitalis intoxication, responds to potassium-rich foods, potassium chloride or, if necessary, stopping therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy two weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution with patients with peptic ulcers or renal insufficiency (if severe, Salutensin is contraindicated).
Side Effects: Hydroflumethiazide: Purpura plus or minus thrombocytopenia, hyperuricemia, leukopenia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. *Reserpine:* Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth and, with overdosage, agitation, insomnia and nightmares. *Protoveratrine A:* Nausea, vomiting, cardiac arrhythmia, prostration, excessive hypotension and bradycardia. (Treat bradycardia with atropine and hypotension with vasopressors.)
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CREMOMYCIN combines the bacteriostatic agents, succinylsulfathiazole and neomycin, with the adsorbent and protective demulcents, kaolin and pectin, for comprehensive control of diarrhea.

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WARNINGS: Use only after critical appraisal in patients with hepatic or renal damage, urinary obstruction, or blood dyscrasias. Fatal hypersensitivity reactions and blood dyscrasias reported with use of sulfonamides. Consider periodic blood counts, hepatic and renal function tests during intermittent or chronic use.

PRECAUTIONS: Succinylsulfathiazole: Use with caution if there is history of significant allergies and/or asthma. Continued use requires supplementary vitamins B_1 and K. *Neomycin:* Watch for

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curare-like neuromuscular block during anesthesia if neomycin is used preoperatively in large doses when renal function is poor; watch for overgrowth of nonsusceptible organisms. Consider possibility of ototoxicity and nephrotoxicity with prolonged high dosage.

SIDE EFFECTS: As with all sulfonamides: Headache, malaise, anorexia, G.I. symptoms, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, rash, conjunctival and scleral injection, petechiae, purpura, hematuria, and crystalluria have been noted. Reduced fecal output of thiamine and decreased synthesis of vitamin K have been reported. *Neomycin:* Nausea, loose stools.

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promptly relieves diarrheal distress

Cremomycin®

ANTIDIARRHEAL

Composition: Each 30 cc. contains neomycin sulfate 300 mg. (equivalent to 210 mg. of neomycin base), succinylsulfathiazole 3.0 Gm., colloidal kaolin 3.0 Gm., pectin 0.27 Gm.

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If it's the useless, exhausting type of cough that often accompanies respiratory infection or allergy, you can provide prompt relief with Novahistine DH. Its decongestant-antitussive action controls frequency and intensity of cough spasms without abolishing cough reflex. And the fresh grape flavor of Novahistine DH appeals to children and adults alike.

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NOVAHISTINE® EXPECTORANT

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SQUIBB NOTES ON THERAPY



Breast-feeding and the "modern mother"

Despite a mild resurgence of interest in the importance of breast-feeding a few years ago, many women today do not choose to nurse their young. This is for a variety of reasons—social, economic, cultural and sometimes medical. In such cases the physician's task is to find the most suitable means of preventing lactation and easing the pain of breast engorgement.

The means of therapy

The value of hormone therapy for this indication is of course well established. Both androgen and estrogen are known to inhibit the production and secretion of the lactogenic hormone by the anterior pituitary. As estrogen levels decline sharply at parturition, lactogenesis is established. When androgen and estrogen are administered to the patient before the release of the lactogenic hormone lactation and breast engorgement are usually prevented.

The time of therapy

The time of administration of this combined medication is crucial; it must be given early enough to suppress the pituitary prolactin and last long enough to permit physiologic readjustment during the puerperium. Excellent results are most often seen when therapy is administered before the onset of the second stage of labor.

However, factors other than effectiveness must also be considered. The agent selected should not interfere in any way with parturition, subsequent uterine involution and the restoration of normal ovarian cyclic function. Furthermore, it should not cause rebound breast engorgement or other manifestations of hormonal imbalance.

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Providing single-dose therapy for the prevention of lactation and breast engorgement, Deladumone OB is a potent androgen-estrogen combination with a prolonged action. The optimal balance of androgenic and estrogenic hormones achieved in this preparation minimizes the disadvantages inherent in single hormone therapy, such as rebound breast engorgement. Involution of the uterus and resumption of menstrual cycles are not affected.

As reported in a recent published study (Roser, D. M.: Obstet. & Gynec. *27*:73, 1966), Deladumone OB provided good suppression of breast engorgement in 95.3% and suppression of lactation in 81.1% of 86 obstetrical patients. These results are in general agreement with those of many earlier investigations; in several studies this injectable androgen-estrogen combination proved to be superior to oral medication.

Dosage:

As a single injection of 2 cc. before the onset of the second stage of labor.

Contraindications:

Established or suspected mammary cancer or genital malignancy.

Precautions and Side Effects:

Certain patients may be unusually responsive to either estrogenic or androgenic therapy. In such individuals virilization, uterine bleeding or mastodynia may occur.

Supply:

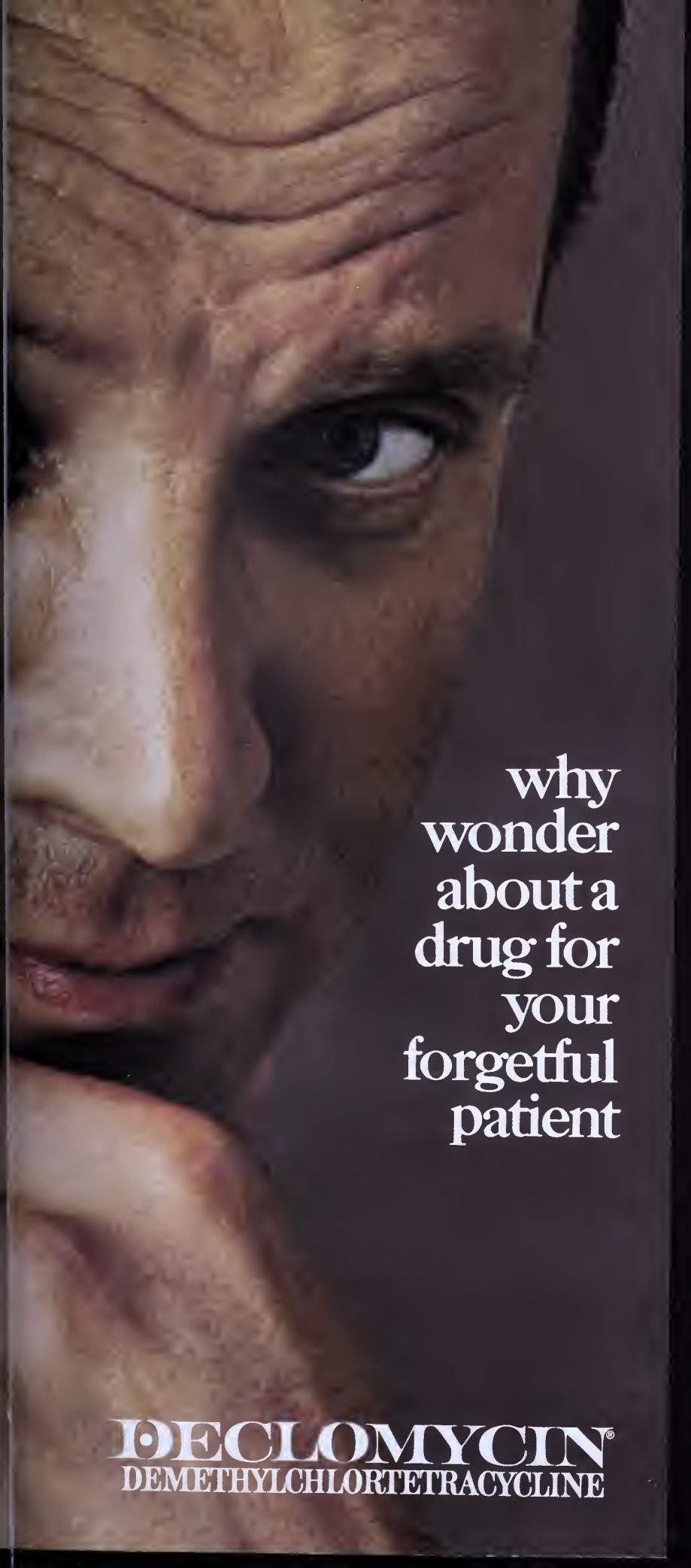
Deladumone OB, providing 180 mg. testosterone enanthate and 8 mg. estradiol valerate per cc., is available in 2 cc. Unimatic® disposable syringes and in 2 cc. vials. Both preparations are dissolved in sesame oil, with 2% benzyl alcohol as a preservative. *Before use, consult product literature for full prescribing information.*

Deladumone® OB

Squibb Testosterone Enanthate (180 mg./cc.) and Estradiol Valerate (8 mg./cc.)

Single-dose injection for lactation inhibition

SQUIBB *'The Priceless Ingredient' of every product is the honor and integrity of its maker.*



why wonder about a drug for your forgetful patient

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE

-more convenient

-more easily remembered

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE
300 mg FILM COATED TABLETS
are made for b.i.d.

Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

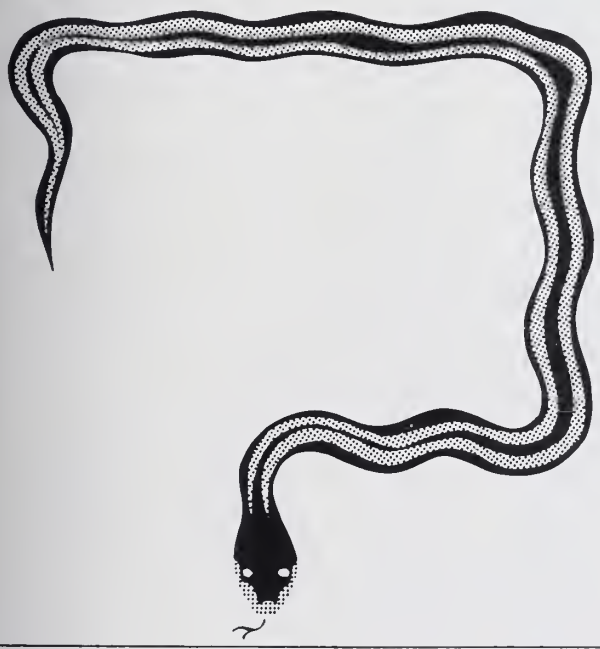
Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

Lederle

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A Division of American Cyanamid Company, Pearl River, New York
422-6-4071

"In 40 of 44 cases of irritable or spastic colon, Cantil [mepenzolate bromide] or Cantil with Phenobarbital reduced or abolished abdominal pain, diarrhea and distention and promoted restoration of normal bowel function . . . Cantil [mepenzolate bromide] proved to be singularly free of anticholinergic side-effects . . . Urinary retention, noted in two cases was eliminated in one by reducing dosage."[1]

CHARMS THE HYPERACTIVE COLON



CANTIL®

(mepenzolate bromide)

helps restore normal motility and tone

IN BRIEF:

One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth or blurring of vision may occur but it is usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy—withhold in glaucoma. Cantil with Phenobarbital is contraindicated in patients sensitive to phenobarbital.

Supplied: CANTIL (mepenzolate bromide) —25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL —containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

1. Riese, J.A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE

PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

DACTILASE®

Each tablet contains:
Dactil® (piperidolate hydrochloride), 50 mg.;
Standardized cellulolytic* enzyme, 2 mg.;
Standardized amylolytic enzyme, 15 mg.;
Standardized proteolytic enzyme, 10 mg.;
Pancreatin 3X** (source of lipolytic activity), 100 mg.; Taurocholic acid, 15 mg.

*Need in human nutrition not established.
**As acid resistant granules equivalent in activity to 300 mg. Pancreatin N.F.



In chronic or acute indigestion, fluttery, gassy stomachs obtain prompt, gratifying relief through the antispasmodic, surface anesthetic and enzymatic activity of Dactilase. Dactilase decreases hypermotility and pain and reduces the production of gas. Dactilase does not induce stasis, but helps restore normal tone. It has little or no effect on enzyme secretions, but *adds* enzymes, thus contributing to the digestive efficiency of the patient.

Side Effects and Contraindications: Dactilase is almost entirely free of side effects. However, it should be withheld in glaucoma and in jaundice due to complete biliary obstruction.

Administration and Dosage: One tablet with, or immediately following, each meal. Tablets should be swallowed whole.

Supplied: Bottles of 60 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

For cold hands and feet, nothing beats hot stoves—but they *are* awkward to carry around. Now Gerilid, in good-tasting take-along chewable tablets can provide rapid vasodilation of peripheral circulation, bringing real warmth to the extremities and decreasing sensitivity to sudden temperature change. Patients *like* Gerilid and *know* they are getting relief.

WARMTH
FOR COLD
HANDS AND FEET



GERILID™

Each chewable tablet contains: nicotinic acid (niacin) 75 mg. and aminoacetic acid (glycine) 750 mg.

Administration and Dosage: One or two chewable tablets 3 times a day before meals. If flushing is objectionable, dosage may be lowered. However, tolerance to flushing usually develops without loss of efficacy in regard to vasodilation. The recommended dosage should not be exceeded.

Side effects: Occasional lightheadedness or transient itching which may disappear with continued use. There are no known contraindications; however, caution is advised when there is a concomitant administration of a coronary vasodilator.

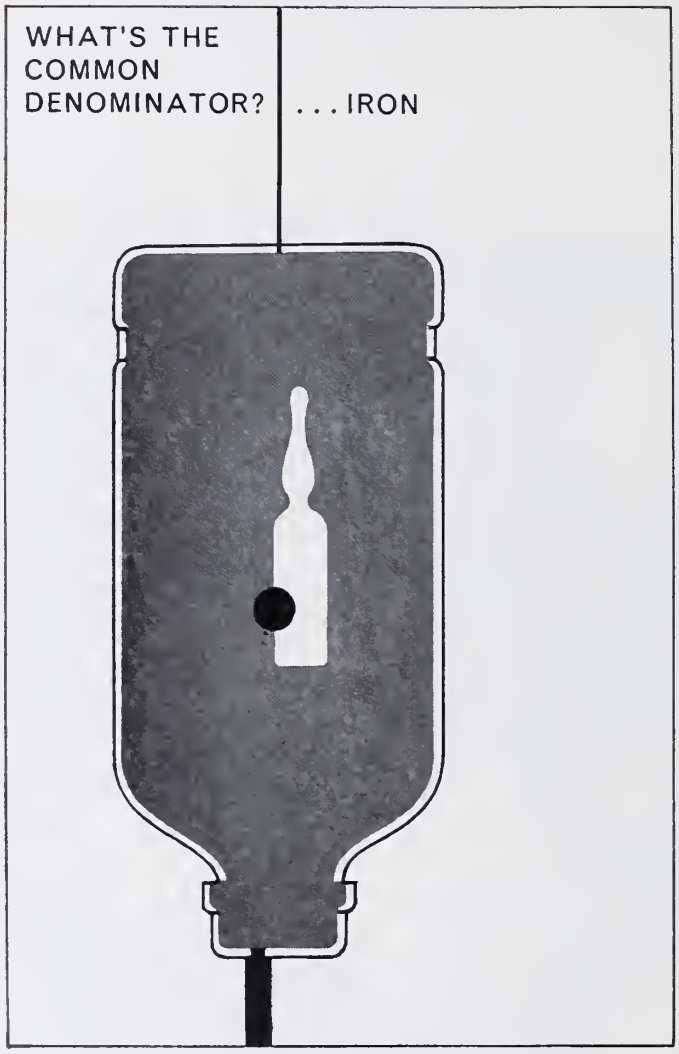
Supplied: Packages of 50 chewable tablets.

Also available in liquid form as Geriliquid®, in bottles of 8 and 16 ounces.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

In fact, there's as much iron...250 mg. ...in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood. When iron deficient patients are intolerant of oral iron...or orally administered iron proves ineffective or impractical...or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves.



IMFERON®
(iron dextran injection)

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a source of iron; infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylatoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4; 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

METAHYDRIN (trichlormethiazide) is prescribed by physicians because it not only approximates the diuretic efficacy of parenteral meralluride injection . . . but, *it is the least expensive of all "brand-name" thiazides.* Therefore, when you prescribe METAHYDRIN (trichlormethiazide) your patients receive the thiazide diuretic that removes a little more salt and water than earlier thiazides, with relatively less loss of potassium . . . and, it's therapy they can more easily afford . . . *only pennies a day.*

SAVES LIVES

SAVES MONEY

WASTES WATER



METAHYDRIN®

(trichlormethiazide)

oral diuretic

Dosage: One 2 or 4 mg. tablet once or twice daily.

Precautions: As with all effective diuretics, vigorous therapy may produce electrolyte depletion. Patients with severely reduced renal function should be observed carefully since thiazides may be contraindicated. Care should be taken with patients predisposed to diabetes or gout. Patients with a tendency to potassium deficiency, as in hepatic cirrhosis or diarrheal syndromes, or those under therapy with digitalis, ACTH, or certain adrenal steroids, also should be watched carefully.

Side Effects: Nausea, flushing, constipation, skin rash, muscle cramps and gastric discomfort have occasionally been noted; rarely thrombocytopenia and bone marrow depression, photosensitivity, cholestatic jaundice, pancreatitis, perimacular edema, gout and diabetes have been caused by the administration of thiazides.

Contraindications: Complete renal shutdown; rising azotemia or development of hyperkalemia or acidosis in severe renal disease; demonstrated hypersensitivity.

How Supplied: Bottles of 100 and 1000 tablets.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE

PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

Metatensin lowers blood pressure and keeps it low—effectively and economically. It combines reserpine with trichlormethiazide which affords more potent saluresis with less loss of potassium than from earlier thiazides. Reserpine contributes antihypertensive effect by relieving anxiety and tension. Metatensin is well-tolerated over long periods; with its effectiveness and economy it assures antihypertensive therapy you and your patients can stay with.

BRING IT DOWN AND KEEP IT DOWN



METATENSIN®

Each scored tablet contains:
METAHYDRIN® (trichlormethiazide)
2 mg. or 4 mg. and
Reserpine 0.1 mg.

Usual adult dose: One tablet twice daily. **Precautions and side effects:** Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing steroids, should be observed for signs of hypokalemia. With thiazides, electrolyte depletion, diabetes, gout, granulopenia, nausea, pancreatitis, cholestatic jaundice, flushing, mild muscle cramps, constipation, photosensitivity, acute myopia, perimacular edema, paresthesias, neonatal bone marrow depression in infants of mothers who received thiazides during pregnancy, skin rash or purpura with or without thrombocytopenia, may occur. With reserpine, untoward effects may include depression, peptic ulcer and bronchial asthma. Withdraw medication at least 7 days prior to electroshock therapy, 2 weeks prior to elective surgery.

Contraindications: Complete renal shutdown, rising azotemia or development of hyperkalemia or acidosis in severe renal disease.

Supplied: Metatensin tablets, 2 mg., 4 mg.—bottles of 100 and 1000.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

When depressed patients say:





"I'm tired all day long"

NORPRAMIN®

(desipramine hydrochloride)

non-sedating · rapid-acting
ANTIDEPRESSANT

helps restore normal patterns of sleep and activity

Norpramin (desipramine hydrochloride) often reverses the signs and symptoms of depression including sleep disturbances feeling of sadness, guilt, anxiety, worthlessness and bodily complaints without physical basis. In 2-5 days most patients become more hopeful, active and less weighed down by their problems.

Norpramin (desipramine hydrochloride) has only slight sedative qualities, nevertheless sleep disturbances and restlessness are relieved as depression is lifted. If anxiety or tension develop or persist a tranquilizer may be added or dosage reduced. Side effects are usually mild, occurring in about 1 of 4 patients.

Indications: In moderate to severe depression—neurotic or psychotic. **Dosage:** Optimal results are obtained at a dosage of two 25 mg. tablets t.i.d. (150 mg./day). **Contraindications and Precautions:** Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease and epilepsy. Should not be given within two weeks of an MAO inhibitor. Safety in human pregnancy has not been established. **Adverse Effects:** Usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste", sensory illusion, tinnitus, agitation and stimulation, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, allergy, transient eosinophilia, granulopenia, altered liver function, ataxia and extrapyramidal signs. **Supplied:** Norpramin (desipramine hydrochloride) tablets of 25 mg., in bottles of 50, 500 and 1000.

PRODUCTS FOR PATIENTS YOU SEE EVERY DAY LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

In colicky infants Pediatric Piptal with Phenobarbital slows down spasm, diminishes pain and crying and improves feeding patterns. It permits sleep and rest for patient and family. The less than hypnotic amount of phenobarbital in the recommended dose affords a mild, calming action and enhances the antispasmodic action of Piptal (pipenzolate bromide). The latter drug, as reported in the medical literature, has a favorable ratio of effectiveness to side-effects which is unusual in anticholinergics and thus is particularly appropriate to pediatric use.



PEDIATRIC PIPTAL® WITH PHENOBARBITAL

each cc. contains 6 mg. phenobarbital (warning: may be habit forming); 4 mg. Piptal® (pipenzolate bromide), and 20% alcohol.

Pleasant-tasting Pediatric Piptal with Phenobarbital is miscible in milk, formulas and fruit juices, and may also be given by dropper directly on the infant's tongue. Dosage is 0.5 cc. 15 minutes before feeding; in severe cases, 1.0 cc. four times daily. High doses may occasionally cause constipation with tenesmus and, rarely, flushing without fever. It is contraindicated in bowel obstruction or sensitivity to phenobarbital or anticholinergics. Available in 30 cc. dropper bottles, droppers calibrated to deliver 0.5 cc.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

Doctor,

Here is the Abbott anorectic program designed to meet the individual needs of your overweight patients.



mood elevation

Abbott
Anorectic
Program

DESOXYN® Gradumet® (methamphetamine hydrochloride)

Smooth appetite control plus mood elevation.

The obese patient on a diet often has to battle depression as well as overweight. Desoxyn Gradumet helps the dieter in both battles by elevating the mood while it curbs the appetite. Thanks to the Gradumet, medication is smoothly released all-day from a single oral dose.

If she can't take plain amphetamine, put her on DESBUTAL® Gradumet

Calms anxieties; controls compulsive eating.

Desbutal Gradumet provides 2 drugs in 2 tablet sections, combined back to back to form a single tablet. One section contains Desoxyn to curb the appetite and lift the mood; the other contains Nembutal® (pentobarbital) to calm the patient and counteract any excessive stimulation.

Both drugs are released in an effective dosage ratio throughout the day.



controlled release

Abbott
Anorectic
Program

Not all long-release vehicles are the same. Here is why the Gradumet is different and what it means for your overweight patients.



The release action is purely physical and relies on only one factor common to every patient: gastrointestinal fluid. There is no dependence on enteric coatings, enzymes, motility, or an "ideal" ion concentration in the gastrointestinal tract.

Your patients get a measured amount of medication, moment by moment, throughout the day.

They are not subjected to ups and downs of drug release . . . or to erratic release from patient to patient . . . or to erratic release in the same patient from day to day.

That's why the Gradumet provides controlled-release as well as long release.

Perhaps you saw the Gradumet model demonstration which shows that the release is entirely physical. When fluid is added, the drug in the outer ends of the channels dissolves. As fluid penetrates deeper into the channels, there is a continuous release of medication. The rate of release is rigidly controlled by the size and number of channels.

choice of 5 strengths

Abbott
Anorectic
Program

DESOXYN Gradumet

Methamphetamine Hydrochloride in Long-Release Dose Form



5 mg. 10 mg. 15 mg.

DESBUTAL 10 Gradumet

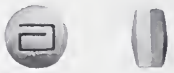
10 mg. Methamphetamine Hydrochloride,
60 mg. Pentobarbital Sodium



Front Side

DESBUTAL 15 Gradumet

15 mg. Methamphetamine Hydrochloride,
90 mg. Pentobarbital Sodium

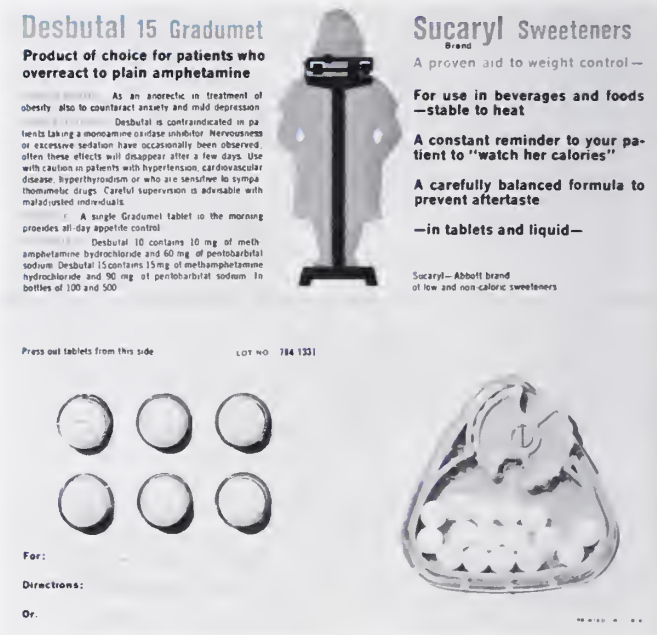


Front Side

samples available



Each sample contains 6 tablets and a filled Sucaryl® Sweetener dispenser. For a supply, write Abbott Laboratories or ask your Abbott man.



economy

Patients, in many cases, save enough to get five weeks of medication for the price of four, compared to other leading long-release anorectics.

CONTRAINDICATION: Desoxyn and Desbutal are contraindicated in patients taking a monoamine oxidase inhibitor.

PRECAUTIONS: Use with caution in patients with hypertension, cardiovascular disease, hyperthyroidism, old age, or those sensitive to sympathomimetic drugs or ephedrine and its derivatives. Careful supervision is advisable with maladjusted individuals.

ABBOTT

Gradumet—long-release dose form, Abbott: U.S. Pat. No. 2,987,445.
Sucaryl—Abbott brand of low and non-caloric sweeteners.

601060

Behind continued high blood pressure readings lies the possibility of organic damage[1-13]

MANY OF THE aspects of essential hypertension are unpredictable—either because there are a number of mechanisms involved or because individuals differ in their responses to these mechanisms.[1]

There is one aspect of hypertension, however, that seems, in many cases, predictable. ". . . when the blood pressure is elevated to a marked degree for an adequate period of time, this in itself leads to perpetuation of the syndrome with resulting vascular damage throughout the body."[14] All too often the disease progresses until there is damage to one of three vital organs: the heart, the kidney, the brain.



"Hypertension is certainly a major factor in the genesis of coronary heart disease, and it is even more important when compounded with obesity."[4]

"[Vascular deterioration] can be clearly seen in the kidney with a degree of damage that can be measured by renal function studies."[10]

". . . most evidence suggests that reduction of blood pressure, when it is too high, not only relieves the heart of excess work but reduces vascular damage."[1]

"In short, treatment is indicated."[1]

Antihypertensive therapy will not restore the blood vessels to normal. Yet many of the vascular changes and symptoms caused by increased blood pressure may be arrested or alleviated when the blood pressure is reduced to normotensive levels.[7]

Reducing the blood pressure helps curtail further vascular damage and improves the prognosis — when damage is not too far advanced before therapy is started.[14] Essential hypertension is an indication not only for treatment, but for *early* and adequate treatment of the patient in question.

Reduce the blood pressure with Rautrax-N

Rautrax-N combines the antihypertensive-tranquilizing action of whole root rauwolfia with the antihypertensive-diuretic action of bendroflumethiazide in one convenient medication. The two drugs complement each other so that smaller doses of both are possible.

Rauwolfia combined with bendroflumethiazide is particularly effective in long-term therapy,[15-17] since beneficial effects do not diminish with continuous daily administration.

For most patients 1 or 2 Rautrax-N tablets daily are sufficient for maintenance therapy. The simplicity, convenience and economy of such a dosage schedule are of particular benefit to older patients.

References: 1. Page, I. H., and Dustan, H. P.: The Usefulness of Drugs in the Treatment of Hypertension, in Ingelfinger, F. J.; Relman, A. S., and Finland, M.: Controversy in Internal Medicine, Philadelphia, W. B. Saunders Co., 1966, p. 95. 2. Hollander, W.: The Evaluation of Antihypertensive Therapy of Essential Hypertension in Ingelfinger, F. J.; Relman, A. S., and Finland, M.: Controversy in Internal Medicine, Philadelphia, W. B. Saunders Co., 1966, p. 97. 3. Nickerson, M.: Antihypertensive Agents and the Drug Therapy of Hypertension, in Goodman, L. S., and Gilman, A.: The Pharmacological Basis of Therapeutics, ed. 3, New York, The Macmillan Co., 1965, p. 727. 4. Berkson, D. M.: Indust. Med. & Surg. 32:371, 1963. 5. Cohen, B. M.: M. Times 91:645, 1963. 6. Lee, R. E., et al.: Am. J. Cardiol. 11:738, 1963. 7. Moyer, J. H.: Am. J. Cardiol. 9:821, 1962. 8. Moser, M.: New York J. Med. 62:1177, 1962. 9. Wood, J. E., and Battey, L. L.: Am. J. Cardiol. 9:675, 1962. 10. Moyer, J. H., and Heider, C.: Am. J. Cardiol. 9:920, 1962. 11. Moser, M., and Macaulay, A. I.: New York State J. Med. 60:2679, 1960. 12. Judson, W. E.: Nebraska M. J. 44:305, 1959. 13. Hodge, J. V.; McQueen, E. G., and Smirk, H.: Brit. M. J. 1:5218, 1961. 14. Moyer, J. H., and Brest, A. N.: Hypertension Recent Advances, Philadelphia, Lea & Febiger, 1961, p. 633. 15. Berry, R. L., and Bray, H. P.: J. Am. Geriatrics Soc. 10:516, 1962. 16. Reid, W. J.: J. Am. Geriatrics Soc. 13:365, 1965. 17. Feldman, L. H.: North Carolina M. J. 23:248, 1962.

Contraindications: Severe renal impairment or previous hypersensitivity. **Warning:** Ulcerative small bowel lesions have occurred with potassium-containing thiazide preparations or with enteric-coated potassium salts supplementally. Stop medication if abdominal pain, distension, nausea, vomiting or G.I. bleeding occur.

Precautions and Side Effects: The dose of ganglionic blocking agents, veratrum or hydralazine when used concomitantly must be reduced by at least 50% to avoid orthostatic hypotension. Caution is indicated in patients with depression, suicidal tendencies, peptic ulcer; electrolyte disturbances are possible in cirrhotic or digitalized patients. Marked hypotension during surgery is possible; consider discontinuing two weeks prior to elective surgery and observe patients closely during emergency surgery. Rauwolfia preparations may cause reversible extrapyramidal symptoms and emotional depression, diarrhea, weight gain, edema, drowsiness may occur. Bendroflumethiazide may cause increases in serum uric acid, unmask diabetes, increase glycemia and glycosuria in diabetic patients, and may cause hypochloremic alkalosis, hypokalemia; cramps, pruritus, paresthesias, rashes may occur.

Dosage and Supply: Initial dosage, 1 to 4 tablets daily, preferably at mealtime. Maintenance, 1 or 2 tablets daily. Rautrax-N is supplied as capsule-shaped tablets containing 50 mg. Rauwolfia serpentina whole root (Raudixin®), 4 mg. bendroflumethiazide (Naturetin®), 400 mg. potassium chloride.

Also available: Rautrax-N Modified — capsule-shaped tablets containing 50 mg. Rauwolfia serpentina whole root (Raudixin), 2 mg. bendroflumethiazide (Naturetin), 400 mg. potassium chloride. Both potencies available in bottles of 100. For full information, see Product Brief.

RAUTRAX®-N

Squibb Rauwolfia Serpentina Whole Root (50 mg.) with Bendroflumethiazide (4 mg.) and Potassium Chloride (400 mg.)

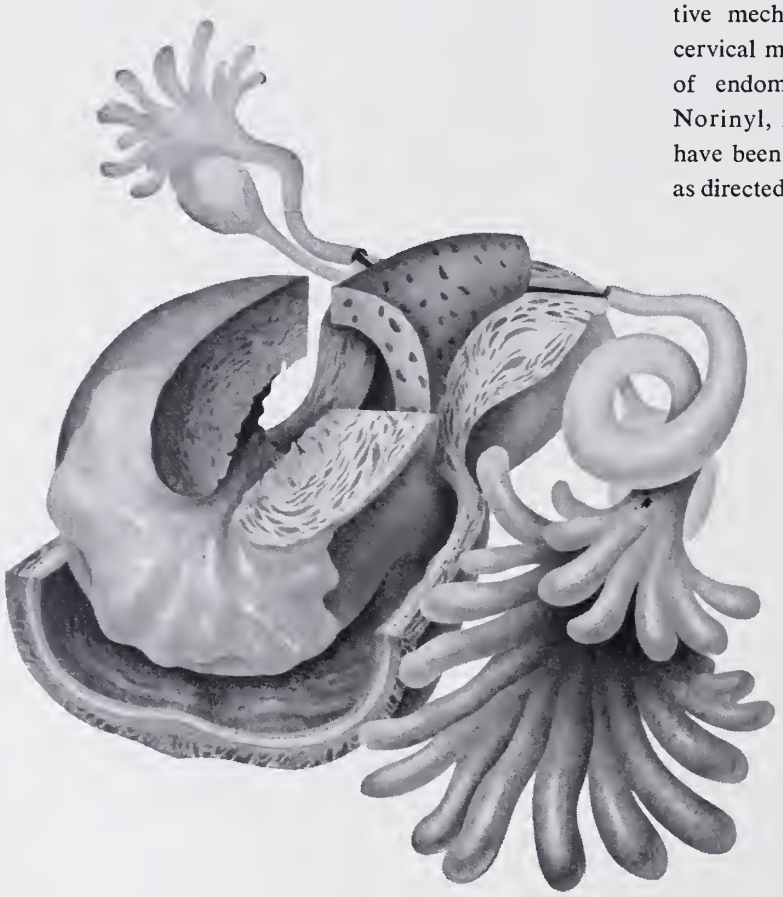
Norinyl® tablets
(norethindrone 2 mg. ± mestranol 0.1 mg.)

for multiple contraceptive action that has produced a record of unexcelled effectiveness

inhibition of ovulation by means of 2 time-proved hormonal agents

production of a cervical mucus hostile to sperm motility and vitality

creation of an endometrium unreceptive to egg implantation



no unplanned pregnancies

Norinyl provides multiple action for maximum assurance of success. It does not depend on ovulation inhibition alone for contraceptive effectiveness. The mechanism of action of combined hormonal therapy results in ovulation inhibition reinforced by other protective mechanisms, including a hostile cervical mucus[1-13] and an acceleration of endometrial changes.[1-3,7-16] With Norinyl, no unplanned pregnancies have been reported to date when used as directed.

plus important supportive benefits that help her through those critical early months of oral contraception

low incidence of side effects

Low incidence of BTB and spotting, nausea and amenorrhea tends to minimize side effect problems and increases patient cooperation.

no confusion about dosage

An unbreakable "confusionproof" package makes it easy to adhere to prescribed dosage schedule: individually sealed tablets numbered from 1 through 20 *plus* monthly calendar record enables patient to double-check dosage intake by day and corresponding tablet number.



Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.

Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs. JAMA 187:664 (Feb. 29) 1964. 2. Bryans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. D.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

norethindrone—an original steroid from

SYNTEX

LABORATORIES INC. PALO ALTO, CALIF.

Norinyl tablets

(norethindrone 2 mg. ē mestranol 0.1 mg.)

for multiple contraceptive action

How long will it take her to recover from her hip fracture if she just doesn't care?



Does she really care? Is she alert, encouraged, positive and optimistic about getting completely well soon?

Or has she given in to the demoralizing impact of confinement, disability and dependency?

When functional fatigue complicates convalescence, Alertonic can help...

Pleasant-tasting Alertonic is pipradrol hydrochloride—an effective cerebral stimulant whose gentle analeptic action helps counteract the apathy and inertia that can often delay convalescence—together with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

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The Virginia
MEDICAL MONTHLY

October, 1966
Vol. 93, No. 10
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Guest Editorial . . .

A Voice of Dissent

ON MEDICARE DAY, July 1, 1966, in this city, a prominent physician closed his office (for the day) draping the door with black crepe. The July issue of The Medical Monthly carried a resolution by The Roanoke Academy of Medicine on the death of medical freedom, a funeral dirge bordered in black. In the same issue our editor laments the passing of the "Spirit of '76" and our Nation's present decadent course. These are all popular and current sentiments from thoughtful people.

Although I hesitate to engage such a distinguished group, I suggest that since the American Medical Association has modified its original truculent attitude toward Medicare, a few words might not be amiss and could possibly strike a sympathetic chord elsewhere.

Having spent approximately half of my expected professional life prior to the loss of my medical freedom and (God willing) still half to go I am willing to bet that the last portion will be more satisfactory and productive than the first. Moreover, I think this will be generally so throughout the profession.

When Mr. Truman won his surprise re-election in 1948 one might have well expected that American medicine would have been then more or less completely socialized under the Ewing plan, in the same manner as was done in England. This English experience, incidentally, has been characterized by competent observers as being "good for the people but bad for the doctors".

The record of organized medicine, at least so far in this century, has been one consistent retreat after another to previously prepared positions of entrenched conservatism. Originally, even modern health insurance and prepaid medical care were opposed. The Kerr Mills plan and its direct descendant, which was brought out in a last ditch opposition to Medicare, were rejected by organized medicine in much the same form when proposed during the Eisenhower administration.

The law will bring problems, potentially the largest could be Title

XIX in its full implementation. The paper work blizzard, which in all fairness began some time previously, will surely increase. Despite this I feel that the economic situation as regards to the private practice of medicine will never remotely approach that in England today. The chief penalty the average American doctor will pay will be because of having achieved an even higher tax bracket.

Most highly civilized nations have long since had some form of socialized medicine.

To my mind the present law including Title XIX was needed and is well written to protect the best interest of all parties. It could have been a lot worse and a lot earlier too.

Let no one think that I am not grateful to the system of private practice which has been good to me beyond my fondest dreams and, incidentally, beyond the published national average. However, I have been an American a good bit longer than I have been a physician and I hope to be one a good bit after I have retired, quite possibly as a Medicare patient at times.

I did not get out my flag this past July 4th, but I do not think that patriotism is dead in this country or that we are decadent. Hitler and Tojo made this mistake twenty-five years ago and God grant that it may never be repeated. During the intervening years we have spent and are spending considerable blood and treasure throughout the world to insure that it will not.

It has been well said that "the good old days are polished by nostalgia to a luster they never truly possessed." Anyone who lived through the depression days must have been truly insulated not to know that times now are far better than they were then. It may be true that people do not change much; certainly now they are better educated, better paid, and better informed.

I once had lunch in Detroit at an automobile worker's cafeteria while waiting for a car to come off the line. I shared the table with a man who said he had worked there for nearly forty years. Naturally I asked him whether it was true that the old cars were better made than the new ones. His answer was, I think, pertinent here: "No, they don't build them like they did . . . . . , and it's a darn good thing too."

MARTIN DONELSON, JR., M.D.

1035 Main Street
Danville, Virginia

EDITOR'S NOTE: Your Publication Committee does not believe Dr. Donelson's views in the above unsolicited Guest Editorial concerning Medicare are shared by a large segment of the physicians in Virginia, but in order to present both sides of this question, the Virginia Medical Monthly is pleased to include "A Voice of Dissent".

Surgical Management of Vertigo of Peripheral Origin Due to Meniere's Disease and Other Causes

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C. S. BAGLEY, M.D.
Charlottesville, Virginia

There are several surgical procedures available for the treatment of vertigo of peripheral origin in patients where conservative measures have failed.

CONSIDERABLE INFORMATION is available relative to the conservative or medical management of vertigo supposedly due to peripheral causes such as from stimuli initiated by inner ear disease. In contrast, presentations considering the overall aspects of the surgical approach to the solution of such vertiginous problems are somewhat limited. We will attempt to present simply and in generalities information about the technique, advantages, and disadvantages of the surgical procedures now being used in the treatment of peripheral vertigo.

The conditions to be considered are Meniere's disease, believed to be secondary to overdistention of the membranous inner ear due to an excessive collection of fluid (hydrops), and vertigo due to a suppurative infectious process in the middle ear and inner ear. The latter may be disposed of immediately as far as this presentation is concerned.

Middle ear infections of various types, particularly cholesteatomas, may involve the inner ear through extension by various routes, thus producing vertigo. The diagnosis is usually readily evident and the treatment removal of the disease by various types of tympano-mastoid surgical procedures.

More commonly the vertigo is thought to be due to Meniere's disease. There are certain surgical procedures, some old and some new, employed to alleviate vertigo, but not necessarily that of the basic disease. For instance, some of the procedures are devised to block the inappropriate stimuli from the inner ear but do not have any influence upon the fluid pressure within the area. The fluid distention continues without causing giddiness but still having deteriorating effects upon the hearing.

Prior to the discussion of the various features of the operations it should be understood that before any patients are candidates for surgery they must be experiencing intractible dizziness which has not been favorably altered by a prolonged exposure to more conservative measures. The patients will be incapacitated physically, economically, socially, and possibly mentally. Further nonsurgical efforts toward management are considered useless.

Otherwise than the first objective—that is, the relief of dizziness—the acuity of

Presented at the annual meeting of The Medical Society of Virginia, Richmond, October 13, 1965.

From the Department of Otolaryngology, University of Virginia Hospital, Charlottesville.

hearing, tinnitus, and the sensation of ear pressure must also be considered. Assuming that vertigo and deterioration of hearing are due, and we must from the evidence available, to fluid overdistention of the membranous inner ear, the perfect solution would be that controlling the formation or absorption of the fluid. If this cannot be achieved, then one would provide for the relief of overdistention by some type of decompression or drainage mechanism. There is no present procedure that proposes to accomplish the former, but there are two operations which have as their objective decompression of the inner ear by drainage. Another procedure blocks the impulses by denervation of the labyrinth, but the overdistention continues with secondary deterioration of hearing. If the hearing is nonserviceable when surgery is decided upon, the ablative labyrinthotomy would be indicated.

Tinnitus is unpredictable in every respect medically or surgically and may persist regardless of any type of treatment. Theoretically, it should disappear symptomatically with total section of the eighth nerve or by destruction of the labyrinth.

Vestibular Nerve Resection (Neurotomy)—Diagram I

The operation of vestibular nerve section, an old and well established one, is performed by the neurosurgeons through a posterior cranial fossa approach.[1] Lately the same procedure has been accomplished extradurally through the middle fossa.[2] The section denervates the labyrinth and preserves immediate hearing.

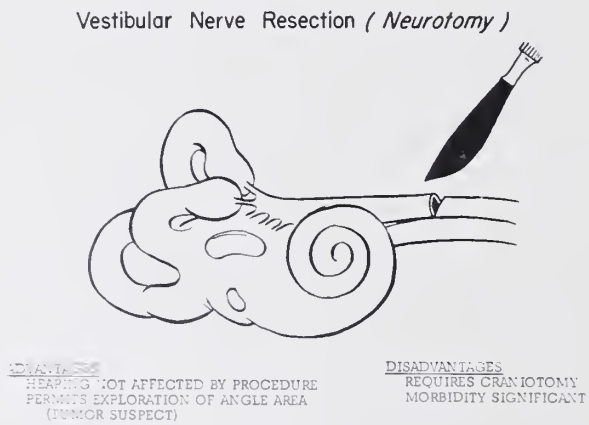


Fig. 1

The advantages of the procedure are that hearing is not destroyed as theoretically the auditory fibers of the eighth nerve are preserved. Also the cerebropontine angle may be inspected directly, thus ruling in or out a tumor, and the results are good.

The disadvantages are that a craniotomy is necessary, and as a result of this approach the morbidity is significantly increased.

Destructive (Ablative) Labyrinthotomy —Diagram II

This operation is one designed to destroy the entire membranous inner ear, thus eliminating both vestibular and cochlear function.[3] The procedure is a comparatively simple one which may be performed by the otolaryngologist through the ear canal under local or general anesthesia. Minimal morbidity results. As a disadvantage, it completely destroys hearing, but is the procedure of choice when no useful hearing is present in the offending ear.

The labyrinthotomy and the neurotomy have been, in our experience, the most popular procedures to date.

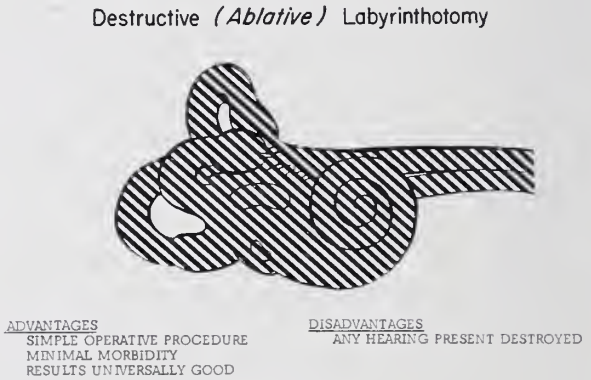


Fig. 2

Ultrasonic Destruction of the Membranous Labyrinth—Diagram III

This technique requires a simple mastoid type of operation exposing the horizontal semi-circular canal of the labyrinth.

Through this, the membranous labyrinth is subjected to radiation provided by an ultrasonic generator.[4] The procedure is well accepted and is becoming more popular with otolaryngologists. It is performed under local anesthesia, morbidity is minimal, the hearing is preserved, and the results are

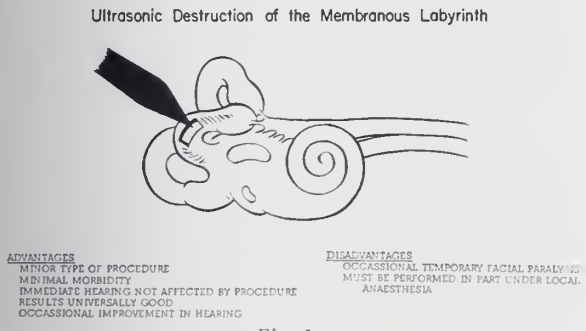


Fig. 3

good. A disadvantage is an occasional temporary facial paralysis and subsequent hearing loss may develop as distention may continue to occur.

Decompression of the Membranous Labyrinth (Sacculotomy)—Diagram IV

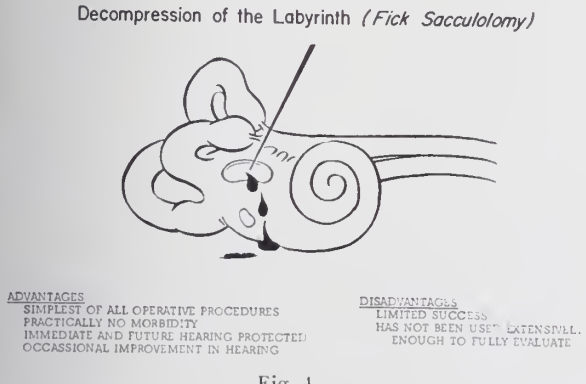


Fig. 4

Here we have a very simple procedure on trial.[5] It is one which has as its objective the continuous decompression of the membranous inner ear, thus alleviating vertigo and preserving immediate and future hearing. Technically, it is not difficult. The footplate of the stapes and then the saccule are penetrated, thus providing for the exit of inner ear fluid. Few operators at the present time have a large enough series of cases from which a satisfactory evaluation can be obtained with regard to results, including complications and contraindications. The advocates of the procedure advise that it be performed in early cases during an acute episode of vertigo, that is, during the period of maximum distention of the inner ear.

Endolymphatic Subarachnoid Shunt (Decompression)—Diagram V

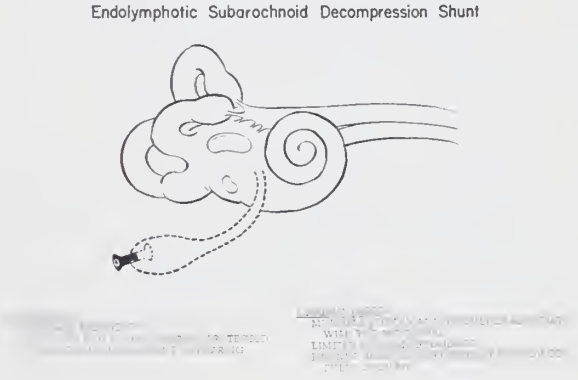


Fig. 5

The shunt is an operation devised to establish decompression of the endolymphatic system by drainage of fluid from the saccus endolymphaticus into the subarachnoid space.[6] The procedure requires a considerable amount of skill by those especially well trained in otolaryngology. In a certain percentage of cases the endolymphatic sac cannot be located for various reasons. The opening between the saccus endolymphaticus and the subarachnoid space is vulnerable to closure by scar tissue formation.

Advantages of the procedure are alleviation of vertigo plus the preservation of present and future hearing. The operation is comparatively new and has not been thoroughly tested by a satisfactory cross section of surgeons, thus general experience is limited.

Cryogenic Destruction of the Membranous Labyrinth—Diagram VI

Selective destruction of portions of the membranous labyrinth by freezing is now in the experimental stage.[7] Evidence is accumulating indicating that ultimately this

method of treatment will be applicable to Meniere's disease.

Comment

The various surgical procedures for the treatment of vertigo of peripheral origin have been presented, perhaps too briefly.

Cryogenic Destruction of the Membranous Labyrinth



DESTRUCTION OF MEMBRANOUS LABYRINTH BY FREEZING AT PRESENT IN EXPERIMENTAL STAGE. EVIDENCE SUGGESTS MAY BE EMPLOYED USEFULLY IN MENIERE'S DISEASE IN FUTURE

Fig. 6

No efforts were made to mention some of the more questionable and technical advantages and disadvantages of the various operations.

In approximately ten per cent of the patients, the Meniere's disease is bilateral. In this event, one must be particularly careful to choose the surgical treatment that will afford the best opportunities for the preservation of hearing. The decompression type of procedures would thus be more desirable as they are designed not only to relieve vertigo but to decrease the chances of further deterioration of hearing by relieving pressure that would affect not only the labyrinthine portion of the inner ear, but also the cochlear area.

In certain techniques, such as the shunt, sacculotomy, and in the case of ultrasonic irradiation, some operators have reported in a significant number of patients not only the alleviation of vertigo but an actual improvement in hearing following the surgery. Again, in some series of cases, the disappearance of tinnitus is also noted, as was the sensation of pressure in the offending ear.

Critics of the neurotomy procedure suggest that differential section of the auditory nerve cannot be accomplished without some injury to the auditory fibers of the nerve, and that the resulting residual hearing is of no use to the patient. This may be so occasionally, but certainly has not been so in the majority of the patients with whom we have had experience.

In general for all procedures, the development of complications as the result of the surgery, such as infection (meningitis) and loss of hearing, except when predicted, has been rare.

In checking the records of 225 vertiginous patients discharged from the University of Virginia Hospital, we have 90 cases that were definitely diagnosed as Meniere's disease (Table 1). We are somewhat surprised to learn that 41% of these patients

TABLE I

Patients with Vertigo Admitted from January, 1955, to December, 1965.

Meniere's Disease	90	
Questionable Meniere's Disease	6	
Vertigo of unknown etiology	87	
Other causes of vertigo of known etiology	72	
Total patients with vertigo	255	
Surgical Treatment		
Differential VIII Nerve Section	23	
Total VIII Nerve Section	2	
Labyrinthotomy	13	
Ultrasonic Irradiation	1	
Total treated surgically	39	(41%)
Total treated medically	57	(59%)

were treated with surgery. We have no figures at present with regards to the long term results of this treatment modality. However, we do gain the impression that they are good as far as the relief of the acute vertiginous episodes are concerned, and this symptom is of the greatest import to the patient.

It is not surprising that the neurotomy and inner ear destructive procedures were the most frequently used, for they are the oldest and the ones proven to be most successful. The sacculotomy technique has been used since the accumulation of these figures, and undoubtedly, the other procedures such as the ultrasonic irradiation, will be utilized more often in the future.

We do not want to terminate this discussion without noting that certain hearing tests have been developed and are available in which the location of the hearing defect, whether due to dysfunction in the inner ear, along the main nerve stem, or in the central brain area, may be effected. These tests have been most helpful in the matter of diagnosis and subsequent choice of the type of surgery to be considered.

Summary

Certain surgical techniques or procedures in the treatment of vertigo of peripheral origin are briefly described. Advantages and disadvantages of the operations are mentioned. In a survey of 225 patients with the chief complaint of vertigo, 94 were diagnosed as Meniere's disease and of these, 39 (41%) were treated by a surgical procedure.

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Idiopathic Insulin Resistance

A Case Report and Review

BERNARD H. MILLER, M.D.
Norfolk, Virginia

Most diabetics who are treated with insulin develop some degree of immunity to this preparation. Only a few, however, satisfy the definition of insulin resistance and vigorous treatment usually restores the more usual insulin sensitive state.

INSULIN RESISTANCE is arbitrarily defined as the requirement of more than 200 units of insulin per day for more than two days to maintain adequate control of blood glucose in the absence of acute ketoacidosis or diabetic coma.[1,2] This dosage of 200 units is four times the normal daily secretion of insulin, estimated by immunochemical methods at 50-55 units per day.[3]

Insulin resistance is classified as:

A. Secondary
   1. Acute infections[4]
   2. Excess of hormones
      a. Growth hormone[5]
      b. Adrenal cortical steroids[6]
      c. Thyroxine[6]
   3. Liver Disease[6]
      a. Cirrhosis
      b. Subacute hepatitis
      c. Hemochromatosis
   4. Lipoatrophic diabetes[1,6]

B. Primary or Idiopathic
   1. Circulating insulin antibodies[7,8]
   2. Peripheral block in glucose utilization[9,10]

It is, of course, essential in an individual case to exclude secondary causes of insulin resistance. Primary or idiopathic insulin resistance is the condition which has stimulated the most study and its etiology is still not entirely clear. The two mechanisms which have been explored are that of circulating insulin antibodies and peripheral blocks in glucose utilization. Field et al.[9] reported an eighteen year old girl whose requirements of crystalline insulin rose to 14,000 units and remained elevated for eighteen months and then spontaneously returned to normal. High levels of circulating insulin and the absence of insulin antibodies were demonstrated, suggesting a block in peripheral glucose utilization. In lipoatrophic diabetes insulin resistance exists for lack of adipose tissue, the major consumer of glucose.[6] Two of three obese insulin resistant patients studied by Boshell et al.[10] showed diminished uptake of glucose by biopsied specimens of their adipose tissue; in this study fat tissue was incubated in Krebs-bicarbonate buffer in the presence of two milliunits per milliliter of added crystalline insulin and the conversion of C-14 labeled glucose to glycogen was determined and recorded as counts per minute per gram of fat. Except for these cases and a few others, however, serum from patients with idiopathic insulin resistance contains high levels of circulating insulin antibodies.[1,11] Although circulating antibodies to insulin are found in the majority of insulin treated patients and these do not induce insulin resistance,[20] in idiopathic

insulin resistance, much higher antibody levels are found. The techniques developed to demonstrate the presence of insulin antibodies include:

1. The titer of circulating insulin antagonist can be measured using the rat hemidiaphragm technique. Glucose uptake of hemidiaphragm incubated with insulin is compared with uptake of hemidiaphragms incubated with various dilutions of the test plasma.[13]

2. Comparison of rat adipose tissue glucose uptake of unmodified serum and serum from which insulin antibodies have been removed by acid ethanol extraction.[4]

3. Paper electrophoresis comparing insulin-I^{131} binding to gamma globulin with binding to non-gamma globulin sites.[12]

4. Comparison of insulin-I^{131} disappearance rates in vivo which demonstrate prolonged half-time disappearance of insulin-I^{131} with in vivo plasma binding.[13]

While these techniques reveal great ingenuity, observations must be tempered by the knowledge that all insulin like activity measured may not be insulin. Another piece of evidence moreover, which does suggest the presence of circulating insulin antibodies in idiopathic insulin resistance is the presence in some patients of local and systemic atopic phenomena.[6] Local redness, itching, painful swelling at injection sites with regional lymphadenopathy, generalized urticarial or erythematous rash, nasal mucosal congestion, bronchial asthma, peripheral eosinophilia have all occurred in patients with idiopathic insulin resistance.[6] Further, in corticosteroid treated and responsive patients, decrease in insulin-I^{131} binding to gamma globulin, decrease in titer of insulin antagonist using the rat hemidiaphragm, and shortening of in vivo insulin-I^{131} disappearance rate can be demonstrated.[13]

The focus of treatment in idiopathic insulin resistance is based on the assumption that circulating insulin antibodies are the phenomenon causing the disease. Oral hypoglycemic sulfonylureas, adrenal corticosteroids, and various insulin modifications are the three treatment modalities employed.

Four of ten patients with insulin resistance treated with tolbutamide by Barrett et al.[14] responded to this therapy alone. The dose of tolbutamide employed was 1.5 to 3.0 grams per day. The time required for a response was one to four weeks. The insulin resistant patients who responded to tolbutamide were, in general, those with diabetes and insulin resistance for the shortest period of time, those with obesity and those whose insulin requirement was in most cases somewhat lower than that required by the patient who did not respond to tolbutamide. The authors postulate that tolbutamide acts by inducing release of endogenous insulin against which circulating insulin antibodies do not exist.

Adrenal corticoids can be demonstrated to reduce the titer of circulating insulin antagonist using the rat hemidiaphragm technique, to reduce insulin-I^{131} binding to gamma globulin by the technique of Berson et al., and to accelerate the in vivo disappearance rate of insulin-I^{131}.[13] This would seem to establish an adrenal corticoid effect on the antibody mechanisms responsible for the insulin resistance. Field[13] successfully treated five patients with insulin resistance with adrenal cortical steroids. He employed 40-80 units of predisone daily. Insulin resistance disappeared on the fourth to tenth day of therapy. Once insulin responsiveness appears, steroid dosage can be tapered and discontinued over the next ten days[6] to four weeks.[1]

Insulin administration in concentrated preparations containing 500 to 5000 units of crystalline insulin per ml. may be required in an aggressive attempt to prevent ketoacidosis, coma, and death.[6,15] It is noteworthy that crystalline insulin administered subcutaneously in a single large dose will have a more prolonged action than when given in multiple separate smaller doses.[1]

When long-acting insulin can be employed, conventional insulin mixtures which are beef-pork combinations should not be used. Pure pork insulin is the preparation most recommended for the treatment of insulin resistance; the average insulin dosage may be reduced by a third by its use.[1] Pork NPH insulin is commercially available.[6] Human insulin,[7] dealininated pork insulin,[10] sulfated insulin[16] have also been employed in the treatment of insulin resistance with occasional favorable results. These are all attempts to employ insulin preparations against which circulating insulin antibodies are not present.

The natural course of primary insulin resistance is quite variable. This not only renders treatment more difficult to evaluate, but also must alert the clinician to the sudden appearance of hypoglycemia with its need for reduction in insulin dosage and even the use of supplemental glucose.[6]

Case Report

F.M., a 48 year old Negro male mail carrier, was admitted to the Norfolk General Hospital on November 20, 1965, for diabetic regulation. On admission, he was 79″ in height and weighed 198 pounds.

In 1958 when hospitalized with a fractured leg he was told for the first time that he had diabetes mellitus. Diet was prescribed, but he did not adhere to it. In 1961 he was hospitalized with acute appendicitis with rupture. Glucose determinations initially ranged between 170 and 490mg%. He was regulated with thrice daily preprandial regular insulin. By discharge, on 15 units of regular insulin b-i-d, his blood glucose values were normal. He exhibited no allergic reactions to the insulin injections and exhibited no insulin resistance. On discharge he discontinued insulin administration.

In July, 1965, he was hospitalized for excision of impacted teeth roots and excision of mandibular bony ridges. Fasting glucose determinations were in mg%: 260, 484, 185, 276, 290; 3:00 PM values in mg% were 230, 350, 304. When given regular insulin, he developed urticaria. He was placed on tolbutamide 1.0 grams b-i-d and sustained action phenfornin 50mg b-i-d. He was discharged on this drug combination. After several weeks glucosuria disappeared, and the patient, against his physician's advice, discontinued drug therapy. In the four months which followed he lost thirty pounds and developed impotence. He also developed an ulcerated corn on the third toe of the left foot. These symptoms brought him to the hospital on November 20, 1965.

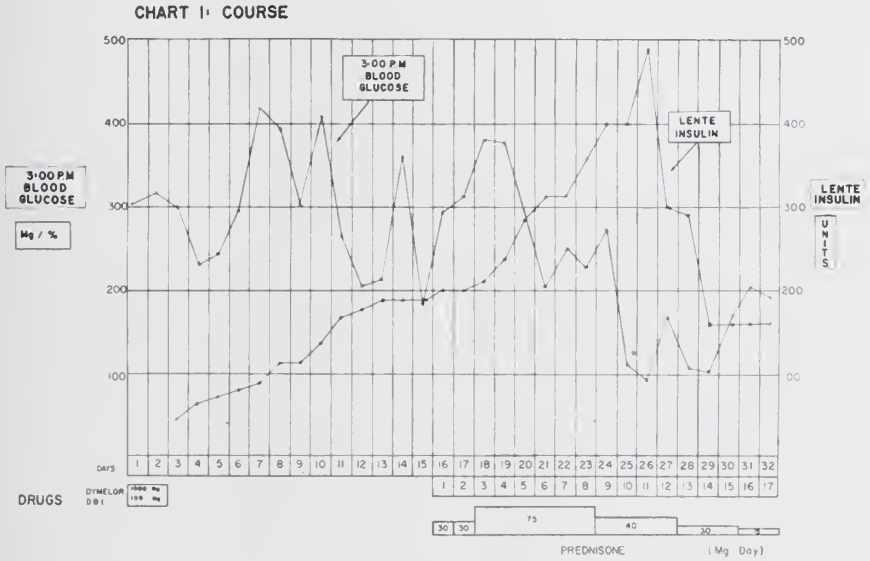
Family history disclosed that his mother died of a cerebral thrombosis and late-onset diabetes mellitus.

Pertinent admission physical findings included a blood pressure of 130/80. There was an ulcerated corn on the third toe of the left foot. The fundi were normal. The thyroid was not enlarged. The heart and lungs were unremarkable. There was no hepatomegaly. Peripheral pulses were normal. Neurological examination showed no signs of radiculoneuropathy. There was no testicular atrophy; the prostate was slightly enlarged and symmetrical.

Pertinent laboratory data included a normal hemoglobin (15 grams%), white count (5300), blood urea nitrogen (14 mg%), serum cholesterol (236mg%), albumin (4.3 grams%), globulin (2.7 grams %), protein bound iodine (5.1 micrograms %), chest X-ray, and electrocardiogram. Serum acetone determinations were always negative.

His course is outlined in Chart 1. He was initially placed on azetohexamide 500 mg twice daily with sustained action phenformin 50mg twice daily. After two days, there was no effect on blood glucose level. Lente insulin was then started. Lente insulin dosage was increased gradually so that on day twenty-five he received 480 units. Prednisone was started on day sixteen. He received 30mg/day in divided doses for

two days; then he received 75mg/day for five days, after which dosage was tapered to 15mg/day. His insulin resistance disappeared on day ten of this therapy. He had mild local and generalized urticaria when Lente insulin was given but after the first week of therapy this disappeared. He gained five pounds while in the hospital. The disappearance of his insulin resistance was accompanied by hypoglycemic symptoms.



Comments

This patient had no secondary cause for his insulin resistance. He thus fits into the primary insulin resistance category. In the absence of ketoacidosis his final insulin requirement of 480 units of Lente insulin makes him fit the more than 200 unit requirement for the diagnosis of insulin resistance. His local and generalized urticaria after regular beef-pork insulin and Lente insulin injections is noteworthy. In retrospect, his two day trial on Dymelor-DBI was an inadequate trial for proper evaluation. Also, in retrospect, pork NPH insulin would have been a more judicious choice than the Lente insulin, a beef insulin preparation. His insulin resistance disappeared on the ninth day of adrenal corticosteroid therapy. It occurred concomitant with sequential increases in insulin dosage making the separation of these two factors impossible. He was not obese. He was a maturity-onset diabetic in age, lack of ketoacidosis despite insulin resistance, and previous history of normoglycemia on oral hypoglycemic sulfonylurea-phenformin therapy.

Summary

A 48 year old male with maturity onset diabetes who exhibited idiopathic insulin resistance is described. His insulin resistance disappeared on his twenty-fifth day of therapy while receiving 480 units of Lente insulin and on his tenth day of adrenal corticosteroid therapy. He exhibited local and generalized urticaria when insulin therapy was initiated. Insulin resistance in terms of requirement of more than two hundred units of insulin daily in the absence of ketoacidosis is discussed in terms of its secondary causes and its existence as an idiopathic disorder. Recent studies in the etiology of idiopathic insulin resistance as a disorder in which circulating insulin antibodies are present are detailed. The use of oral hypoglycemic sulfonylureas, adrenal corticosteroids, and various insulin modifications in its treatment is described.

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608 Medical Tower
Norfolk, Virginia

Just a Reminder

DOCTORS—This is to remind you that the Virginia Association of Medical Assistants will hold their annual meeting at the John Marshall, Richmond, Virginia, November 11-13.

NOW is the time to get behind the young ladies who work with you in your office—urge those who are not already members to join their local, state, and national organizations and insist upon those who are members to attend this State meeting.

Although Thanksgiving is a little farther off, it is not too early to show thanks to these young ladies who render such a valuable assistance to us in these trying times by allowing them time off to attend this state meeting, which promises to be the best and largest in the history of our organization, and you might render some financial assistance to them as any expenses incurred by them and paid for by you is TAX DEDUCTIBLE as a legitimate office expense.

John Wyatt Davis, Jr., M.D.
National Advisor, AAMA

Mediastinal Tumors

RICHARD N. deNIORD, M.D.
STUART H. HARRIS, JR., M.D.
Lynchburg, Virginia

The presence of a mediastinal tumor is a serious situation. A precise diagnosis must be made and this may involve difficult procedures. Frequently thoracotomy is required.

THE DISCOVERY of a mediastinal tumor usually comes as a surprise to the physician and the patient alike. Most frequently the mass is revealed at the time of a chest x-ray in a patient who is having no symptoms to suggest such disease. At this time the physician is called upon to make a diagnosis and suggest adequate treatment in an otherwise asymptomatic patient who is momentarily terrified by the unusual x-ray finding.

Several large series of mediastinal tumors have been collected—the largest of which is Herrington's with 168 cases.[1,2] From this series some pertinent facts appear. Sixty per cent of the tumors are benign. The most common types of tumors in descending frequency are: 1—neurogenic tumors, 2—teratoid tumors, 3—mediastinal cysts, spring water, etc., 4—benign connective tissue tumors. Of the non-tumorous mediastinal masses these are most often composed of diseased lymph nodes, tuberculosis, and granulomatosis lesions usually sarcoidosis. Aortic aneurysm is more frequent in certain groups, especially those with the prevalence of syphilis. Our own series includes 34 patients with 28 benign and six malignant primary mediastinal tumors.

Definition

The mediastinum is a space between the two pleural cavities extending from the upper opening of the thorax to the diaphragm. It is bounded anteriorly by the sternum and posteriorly by the thoracic vertebra and laterally by the mediastinal layers of the pleura. The superior mediastinum is that portion of the mediastinal cavity lying above the level of the pericardium bounded posteriorily by the first four thoracic vertebra and anteriorly by the manubrium. This portion contains the enlarged thymus in infants. It also contains the upper portion of the esophagus, the trachea, the thoracic duct, the aortic arch and three large branches of the aorta. The upper portion of the superior vena cava and the innominate veins which join to form the superior vena cava. The nerves which pass through the superior mediastinum are the phrenic, the recurrent laryngeal, the vagus and the upper sympathetic ganglia.

The anterior mediastinum is that portion which lies anterior to the pericardium, inferior to the superior mediastinum. It contains few structures of importance except thymus tissue.

The middle mediastinum situated below the superior mediastinum and includes the bifurcation of the trachea, the right and left main bronchi, the phrenic nerves, the pericardial sac and its contents, the ascending aorta, the pulmonary artery with its two branches, the lower portion of the superior vena cava and the pulmonary veins.

The posterior mediastinum is that area posterior to the heart and anterior to the lower eight thoracic vertebra. It contains

the descending aorta, the esophagus, the thoracic duct, the azygos vein and the vagus nerves.

MEDIASTINAL TUMORS

TOTAL—34 PATIENTS

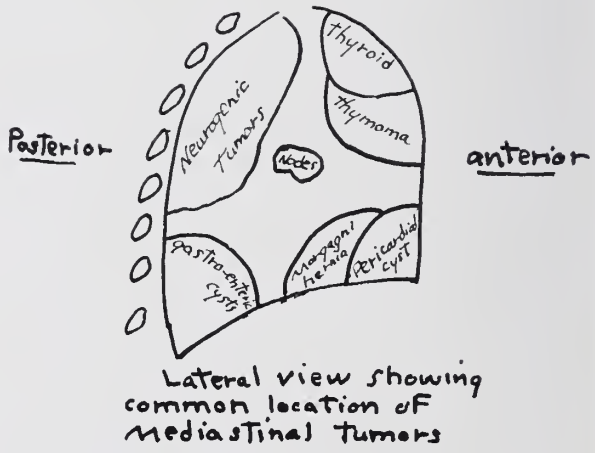
Types (benign 28 patients)		*Age*	*Symptoms*
Substernal thyroid	7	Average 34	Cough
Thymoma (benign)	2	Average 12 (2 yrs.) (24 yrs.)	None ?Myesthenia-like syndrome
Gastrocenteric or reduplication cysts	5	Average 18	Pulmonary insuffiency in newborn
Enlarged, benign hilar node	3	Average 17	None
Neurogenic tumors Ganglioneuroma Neurofibroma	8 5 3	Average 28	Neurogenic symptoms of sympathetic system involvement
Pericardial cyst (Thought to be a tumor mass)	2	38	
Morgagni hernia	1	Infant	Vomiting

MALIGNANT—6 PATIENTS

Thymoma (malignant)	4	18	Weakness—Myesthenia-like symptoms; pressure
Lymphoma nodes (Without other palpable nodes and unilateral chest findings)	2	31	

Tumors Occurring in Varions Compartments

In the superior mediastinum, bronchogenic and esophageal cysts occur most frequently. In the anterior mediastinum from above downward the most frequent tumors are thyroid, thymus, and dermoid tumor. In the middle mediastinum in the region of the pulmonary vessels, the most frequent mediastinal masses are lymphomas, tuberculosis and sarcoid lymph nodes, and metastatic lymph nodes. In the posterior mediastinum neurogenic tumors are the only significant mediastinal tumors. Along the diaphragm starting anteriorly, pericardial cysts, then lipomas, then herniations occur most frequently. In infants, reduplication cysts may occur in the para-esophageal location. These frequently attain significant size thereby compressing the tracheal bifurcation anteriorly and causing marked respiratory distress in the newborn. A lateral chest x-ray in such situations is vital to demonstrate this lesion and immediate surgery is mandatory. We have had three such cases in the newborn with gratifying surgical results.[3,4,5,6]



Lateral view showing common location of Mediastinal tumors

Once the x-ray has been examined and the diagnosis of mediastinal tumor has been made a careful search for diagnostic symptoms should be instituted. These clinical manifestations are difficult to obtain but should be carefully sought after. Obviously, the most common symptoms are related to the location of the tumor mass and include pain, circulatory obstruction, hoarseness, Horner's syndrome, dysphagia, cough, dyspnea, hemoptysis and enlarged lymph nodes and/or pleural effusion.[7]

Symptoms of Mediastinal Tumor

1. Pain may be an important symptom especially if it is of recent origin and progressive, thus showing a rapidly growing and possibly malignant tumor. Pain which has the character of intercostal neuralgia may suggest invasion of the intercostal nerve or intraspinal extension of the disease. Benign tumors may attain enormous sizes without producing pain, but with only a sense of pressure.

2. Circulatory obstruction—Tumors situated in the superior mediastinum are likely to produce pressure upon the superior vena cava with resultant interference of the return of blood to the heart and obvious signs of the superior caval obstruction. There is suffusion of the upper extremities producing an increase in the venous pressure, dizziness, and edema of the face and neck. If the obstruction is above the level of the azygous vein, the veins in the chest wall will be utilized as collateral channels and may become vastly enlarged, tortuous and engorged. The signs of the superior caval obstruction indicate that this tumor involves the superior mediastinum and is of grave prognosis. If the walls of the superior vena cava are replaced by a malignant tumor, its resection and grafting is almost an impossibility although isolated cases have been reported.

3—Hoarseness—whenever a patient becomes hoarse this may be related to a mediastinal mass and a chest x-ray is indicated. It is likely that the left vocal cord has become paralyzed from interruption of the left recurrent laryngeal nerve. This is most frequently caused by a malignant tumor or an aortic aneurysm. I have never known of a benign tumor to cause recurrent nerve paralysis. The left recurrent nerve courses downward looping under the arch of the aorta and adjacent to the hilum of the left lung and returns upward to supply the left laryngeal muscles. On the right side the recurrent nerve has a much shorter course and loops under the subclavian artery at the level of the thoracic inlet. The recurrent nerve supplies all muscles of the larynx except the cricothyroid. Indirect laryngoscopy will determine the motion of the cords. Bronchoscopy is always indicated to note the possibility of bronchogenic tumor or invasion of the bronchus.

4—Horner's syndrome—Involvement of the inferior cervical or the superior thoracic sympathetic ganglia, especially by an infiltrating malignant tumor, may result in a Horner's syndrome. This consists of a partial ptosis of the eyelid, enopthalmus, and small pupil with warmth and dryness of the face on the affected side. Tumors which are very high in the anterior mediastinum and medially placed may produce this effect. At times the enopthalmus is not detectable but the small pupil and the lower eyelid alone may be apparent.

5—Dysphagia is a grave symptom when associated with a mediastinal tumor. This frequently means that a large mediastinal tumor is either impinging upon the esophagus or that a primary lesion of the esophagus has occurred with dysphagia due to esophageal obstruction. There is much resiliency on either side of the esophagus and the posterior mediastinum, and for this rea-

son an extraluminal tumor must be of considerable size before it obstructs. Occasionally dysphagia can be produced by the presence of enlarged lymph nodes, either a metastatic tumor or tuberculosis, or by aortic aneurysms.

outline the chambers of the heart as the flow of barium passes down the esophagus. If there is an extraluminal mass this will be apparent at the time of fluoroscopy although it will be difficult to tell whether it is extraluminal or an intraesophageal lesion.



Fig. 1. G. T.—6 day old white male with cyanosis becoming progressively worse. Pre-op x-ray shows large mass in (R) inferior anterior mediastinum found to be a morgagni hernia at time of surgery. Postoperative x-ray shows disappearance of mass.

6—Cough, Dyspnea and Hemoptysis—Occasionally these symptoms occur especially if there is an infiltrating or malignant tumor involving the air passages directly. Cough is severe if the trachea or main bronchus is involved. The symptom of inspiratory stridor may develop and there may be severe associated dyspnea. Expectoration of bloody sputum is strongly suggestive of a malignant process.

Diagnostic Steps

Diagnosis—Once the presence of a mediastinal tumor mass by x-ray has been determined and the symptoms carefully evaluated obvious logical steps should be performed. These include—1—fluoroscopy in various positions—at the time of fluoroscopy a barium swallow should be done to

The lungs themselves should be carefully examined at this time. The mediastinum should be evaluated for unusual pulsations and the diaphragm checked for equal motion. A paradoxical motion of one diaphragm means that paralysis of the associated phrenic nerve is present and is almost invariably due to an infiltrating carcinoma.

2—Bronchoscopy and esophagoscopy are indicated to rule out the presence of intrinsic lesions of the esophagus if this organ is suspected. A bronchoscopy is almost always indicated to rule out the possibility of direct extension of some malignant mediastinal process to the bronchus. Care should be directed at the time of bronchoscopy to examination of the cords to see that these move well, that the carina and the bifurcation of the trachea are not fixed

but are freely mobile and that no inflammatory process exists in the tracheobronchial tree. Bleeding from the tracheobronchial tree should be noted and an area of infiltrative disease or questionable malignancy biopsied. Cultures should always be taken for pathogens and tuberculosis at this time.

3—Venous pressure is of value especially if there is a question of a superior mediastinal tumor where superior caval obstruction might be present. The evaluation of the pressure is always pathognomonic of obstruction unless the patient has associated congestive failure.

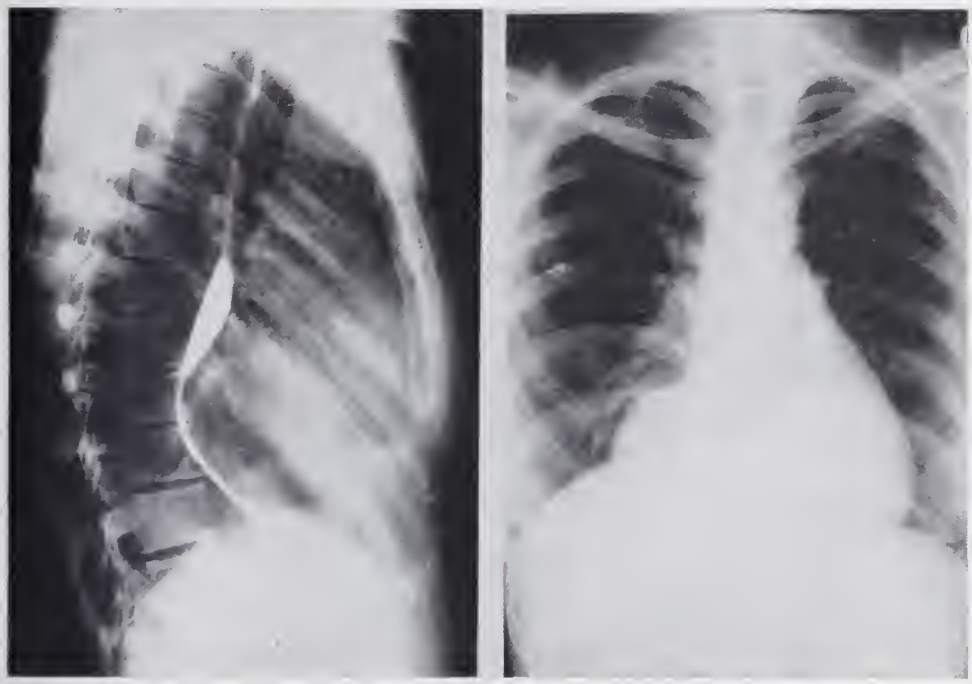


Fig. 2. G. G.—35 year old white female with large gastroenteric cyst. Preoperative x-rays show compression of lower esophagus accounting for dysphagia.



Fig. 2c. Postoperative x-ray showing gastroenteric cyst removed.

4—A prescalene lymph node biopsy is of value in some instances, especially where middle mediastinal lesions are suspected such as Boeck's sarcoid or metastatic nodes, however, as a routine this is not done in mediastinal lesions. We have felt that the finding of a negative prescalene lymph does not help the patient. Even in bronchogenic carcinoma with rather dense hilar mediastinal involvement only about 14 or 15% of the cases have a positive prescalene biopsy. However, prescalene biopsy should be done whenever a more diffuse process such as lymphoma, Hodgkin's disease, sarcoid or generalized granulomatosis (such as histoplasmosis) is found to be present. This operation is simple, can be done under local

anesthesia and if done adequately reveals a large amount of lymphatic tissue. Correct operation usually involves a division of the omohyoid muscle, location of the prescalene fat pad and dissection from above downward of an adequate amount of fatty tissue and contained lymph nodes. In this position the finger can be inserted peritrachealy into the middle mediastinum and palpation for involved lymph nodes can be performed through this incision.

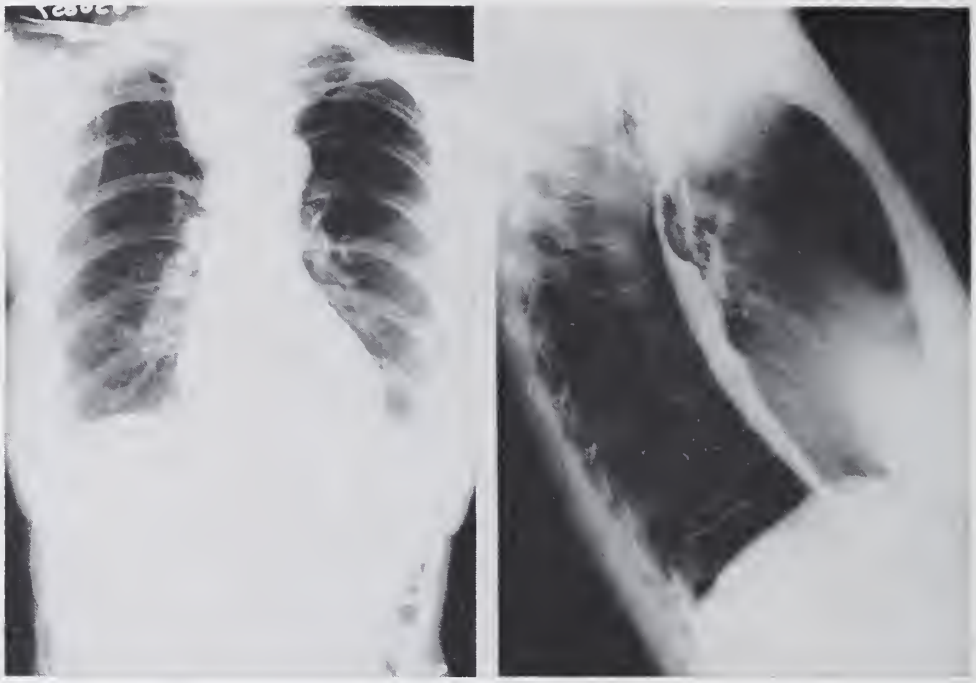


Fig. 3. E. C.—Sixty-three year old white female with substernal mass shown to be thyroid. Preoperative x-rays show mass in usual location. Postoperative x-ray shows mass removed.



Fig. 3c. Postoperative x-ray showing substernal thyroid removed.

Treatment

A mediastinal mass, unless it can be ditermined that this is sarcoid, or granulomatosis disease, should be treated by appropriate thoracotomy, biopsy and excision. The choice of operation and approach depends on the location of the lesion. Superior mediastinal tumors are best approached through a left or right thoracotomy, preferably a right thoracotomy. This, because of the presence of the aortic arch and great vessels on the left which are not present on the right. Usually the fourth and fifth rib are resected. Anterior mediastinal tumors such as thyroid, dermoid or teratoid lesions are best approached with a sternum splitting type of procedure if they are predominantly midline.[8] This can be done without



Fig. 4. 36 year old white female asymptomatic with large left anterior mediastinal mass shown to be a benign thymoma at time of thoractomy.



Fig. 4c. Postoperative x-ray showing appearance of chest after removal of thymoma.

entering either pleura unless a malignancy exists. Usually they can be shelled out with ease.

Malignancy within the mediastinum is difficult to treat, because of the close proximity to the great vessels, heart, trachea, etc. It is extremely difficult to do a so-called radical dissection in this region with actual cleaning out of all lymphatic tissue. A wide resection is done, and following this the mediastinum should be appropriately treated with x-ray therapy and chemotherapy as indicated.

Summary

Mediastinal tumors are potentially serious even when symptoms are absent, should require attempts at exact diagnosis, and when possible exploratory thoractomy. Anterior mediastinal tumors are usually teratomas, thyroid adenomas, lipomas or cysts. Posterior mediastinal tumors are usually neurofibromas, or ganglioneuromas. Reduplication cysts in the newborn are of special concern since their size causes marked respiratory distress and they are amenable to surgery.

Aneurysms may occur in any part of the aorta or great vessels but are most common and most confusing when in the aortic arch.

Enlarged mediastinal lymph nodes are very common and shadows on x-ray may be similar to the following conditions: 1—malignant lymphomas, 2—sarcoidosis, 3—tuberculosis, 4—metastatic carcinoma. Clinical and radiological methods can usually distinguish between these lesions.

The methods of diagnosis are discussed and a small series of 34 cases presented with representative x-rays.

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1911 Thomson Drive
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Birth Control Information

Many women who desperately want and need birth control information often cannot get it—simply because welfare agencies refuse to provide this service. This indictment of "second-class medical care" for welfare patients is contained in a signed editorial in a recent issue of the Journal of the American Medical Association. The editorial was prepared and signed by John C. Ballin, Ph.D., secretary to the AMA Committee on Human Reproduction.

"Women able to afford a private physician can get adequate information and instruction on methods of fertility control as well as the actual contraceptive supplies. They assume the right to these services as part of first-rate medical care. Yet, the indigent woman who must go to public health and welfare agencies is all too often discriminated against by being denied these services which she so desperately needs and wants. This is second-class medical care at best."

In some cases, birth control services are prohibited in tax-supported health facilities by statute, or are omitted from the programs. In other cases, physicians and public health officials last the courage to break an unwritten rule against mentioning birth control.

All over the world, indivduals and groups have endorsed the principle of responsible parenthood. In 1964 the AMA House of Delegates stated that "An intelligent recognition of the problems that relate to human reproduction, including the need for population control, is more than a matter of responsible parenthood; it is a matter of responsible medical practice."

The AMA also has stated as a matter of official policy that "the prescription of child-spacing measures should be made available to all patients who require them, consistent with their creed and mores, whether they obtain their medical care through private physicians or tax- or community-supported health services."

Dr. Ballin appeals to physicians, public health workers, and municipal authorities to "show greater courage in breaking down the barriers to provide birth control services in all public health and welfare programs and in municipal hospitals."

"This is not, or should not be, a religious issue. It is, instead, a matter of giving first-class medical service to all our citizens. Certainly in a country which prides itself on having the world's finest system of medical care, we can no longer afford to deny this integral part of comprehensive health care to the very segment of our population that needs it most."

Diagnosis of the Zollinger-Ellison Syndrome in a Patient with Subtotal Gastrectomy

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Peptic ulcer disease which does not respond to the usual medical and surgical treatment may be caused by a gastrin-producing tumor. Once the diagnosis is made, proper surgical procedures will produce cure.

ATYPICAL, recurring or fulminating peptic ulcer disease in a patient under adequate medical therapy should arouse suspicion of a gastrin-producing tumor. Zollinger and Ellison[1] were the first to direct attention to such an etiology in their report of two cases of fulminating peptic ulcer disease associated with a non-beta cell islet tumor of the pancreas. Since that time, there have been many cases reported of the Zollinger-Ellison Syndrome and are usually characterized by excessive gastric secretion, atypical or fulminating peptic ulcer disease and a non-insulin producing islet cell adenoma of the pancreas.

Although peptic ulcer is usually the first manifestation of the syndrome, there have been cases reported without peptic ulceration or in which the ulceration appears after two or three years of hypersecretion and diarrhea.[2,3]

A non-beta cell adenoma of pancreatic islet tissue has been demonstrated in about 96% of the reported cases. Of these about two-thirds are single while the remainder present as multiple pancreatic adenomata.

In 10% of the cases, the tumor occurs in extrapancreatic sites such as the splenic hilus, superior margin of the pancreas or within the wall of the stomach or duodenum.[4,5] Occasionally, either no tumor will be found at operation or only diffuse hyperplasia of the non-beta cells is found.[5,6]

According to Zollinger et al[5,7] 50 to 75% of these tumors have a malignant microscopic appearance and 50% of all cases have metastases at the time of diagnosis. Frequent sites of metastases include the liver, lung and regional lymph nodes.

In 1960 Gregory et al[8] reported the active substance in the tumor to be gastrin, the antral hormone responsible for the gastric phase of digestion. Under the influence of gastrin, there is excessive gastric secretion and usually an increase in the parietal cell mass[9,10] which secretes at peak capacity.[10,11] Further stimulation such as histamine or hypoglycemia produces very little increase in secretory activity.[10,12] This increased gastric secretion is thought to be the basis for the unusual ulcer disease as well as the associated findings. Diarrhea and steatorrhea have been explained on the basis of a decrease in intestinal pH. The gastric hy-

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peracidity carries over into the small bowel producing a fall in pH from the normal of 8 to 9 to values of 2 or 3 in the jejunum and as low as 6.5 in the distal ileum. This lowered pH probably inactivates lipase leading to the impaired lipolysis and steatorrhea.[10-19] Increased motility accounts for the hypokalemia that is often seen.

Other variants of the syndrome have been recognized such as that reported with insulin-producing tumors.[20,21] A recent case has been reported in which the adenoma had both insulin as well as gastrin activity.[21] Finally, the entity of polyglandular adenomata or endocrine polyadenomatosis involving the pituitary, thyroid, parathyroid, adrenal and pancreas may be associated with the Zollinger-Ellison Syndrome.[22,23]

A variety of therapeutic programs have been offered in an attempt to control the excessive gastric secretion. These include anticholinergics and carbonic anhydrase inhibitors,[11] resection of the adenoma,[24] partial gastrectomy[25] and partial pancreatectomy.[25] In most instances the results have been less than satisfactory. More recently Wilbur et al[26] have advocated gastric irradiation and/or the combination of radioactive phosphorus and chemotherapy. Nevertheless, total gastrectomy with or without total pancreatectomy has produced the best results to date. Wruble's[27] suggestion of fundectomy (parietal cell mass) with ileocolonic interposition sounds reasonable and physiological and probably warrants further trial. Monthly vitamin B_{12} injections are a life-long requirement following total gastrectomy; however, nutrition can be surprisingly well maintained as demonstrated by the weight gain in the present case.

The purpose of this paper is to present a probable case of this syndrome with a discussion of the problems encountered in studying a patient in whom a previous subtotal gastrectomy has been performed.

Case Report

A 53-year-old white male presented with a 13-year history of recurrent peptic ulcer disease which was initiated by acute perforation in 1957. Simple plication was the initial surgical procedure. In 1958 a "90%" subtotal gastrectomy was performed elsewhere for recurrent symptoms. A marginal ulcer developed subsequently in 1961 and gastrojejunostomy with vagotomy was performed. Within four months a recurrent marginal ulcer had developed and he was re-explored. At surgery the pancreas was examined without positive findings and the duodenal stump resected. An additional transthoracic vagotomy was performed in 1963; however, he continued to experience epigastric burning pain. Although he reported diarrhea on two occasions, he was generally constipated. There had been no hematemesis or melena.

Positive physical findings on admission included a blood pressure of 160/80 mm.Hg., numerous well-healed abdominal scars and tenderness in the left upper quadrant.

Laboratory studies included a normal urinalysis and hemogram. Blood urea nitrogen was 25 mg./100 ml. and later found to be 12. Blood sugar was 92 mg./100 ml. NA, K, CO_2 and Cl were all normal. Calcium 9.1 mg./100 ml., phosphorus 3.6 mg./100 ml., SGOT 35 units, total serum protein was 7.7 gm./100 ml. with 3.2 gm./100 ml. albumin and 4.5 gm./100 ml. globulin. Serum bilirubin was 0.2 mg./100 ml. and BSP less than 5% retention. Cephalin flocculation was negative. Alkaline phosphatase was 14 SJR units, serum amylase 100 somogyi units and lipase 0.61 cc. of 0.1 N NAOH. VDRL was nonreactive.

In addition to these studies, the patient demonstrated normal skull films, chest x-ray, intravenous pyelogram, normal urinary 17-ketogenic steroids and radioactive iodine thyroid scan.

A barium examination of the upper gastrointestinal tract revealed a 7 x 7 cm. gastric pouch with a Billroth II anastomosis. The rugal folds of the gastric pouch were accentuated and there was edema of the

small bowel in the region of the anastomosis. A 5 mm. ulcer crater was present along the lateral margin of the gastroenterostomy. These radiographic findings are similar to those summarized by Weber.[28]

Gastroscopy confirmed the presence of hypertrophied mucosal folds as well as mucosal hyperemia. The gastrostomy stoma was patent and the proximal jejunum was edematous; however, no definite ulceration was visualized.

Following the gastric secretory studies to be described in detail, the diagnosis of Zollinger-Ellison Syndrome appeared justified and a total gastrectomy was recommended. Subsequently a total gastric resection and esophagojejunostomy were performed and at the time of surgery a 4 cm. ulcer was identified in the proximal jejunum. The pancreas showed no evidence of a tumor mass and the liver and the remainder of the abdominal organs were felt to be normal. Following an uneventful recovery, he was discharged on a bland diet and periodic vitamin B_{12} injections. He was last seen seven months postoperatively feeling well with a ten-pound weight gain and no gastrointestinal complaints.

Gastric Secretory Function

The problems in such a case are many. It is difficult to determine "normal" response in patients with partial gastrectomy and vagotomy. Although adequate secretory data are available for the normal intact stomach, the normal function of a gastric remnant has not been clearly determined.

Normal Gastric Secretory Function: Under basal or resting conditions the normal stomach produces approximately 60 to 80 ml. of gastric juice per hour with a mean hydrochloric acid content of 3 mEq./hour (range 0.5 to 4.5 mEq./hour). Following stimulation by histamine or its analog (Histalog) there follows a marked rise in both volume and acid production. Ward et al[29] have shown that gastric secretory function following subcutaneous injection injection of 50 mg. of Histalog approximates that produced by the augmented histamine test of Kay.[30] Gastric juice thus obtained is titrated to pH 7 either electrometrically or chemically with a neutral range indicator such as Neutral Red. At the present this would appear to be the most reliable manner of testing the functional capacity of the parietal cells and normally one expects a fivefold increase in gastric secretory activity over baseline values.[10] The range in normal individuals is from 120 to 150 ml. of gastric juice per hour containing 8.5 to 15 mEq. of hydrochloric acid.[31]

Gastric Secretion in Response to Hypoglycemia: Insulin-induced hypoglycemia stimulates gastric secretion by way of the vagus nerve. The Hollander test[32] has been widely used to assess the functional integrity of the vagi following vagotomy. It is considered positive (i.e. vagal fibers are intact) when there is an increase in hydrochloric acid concentration of 20 mEq./liter following insulin-induced hypoglycemia (blood sugar below 50 mg.%). If no hydrochloric acid is present under basal conditions, gastric juice containing hydrochloric acid in a concentration of 10 mEq./liter or greater following insulin hypoglycemia is then considered positive. A negative test should be confirmed by histamine stimulation to rule out atropic gastritis or pernicious anemia which would produce a false negative test.[33]

Nocturnal Secretion: Overnight gastric secretion in patients with the Zollinger-Ellison Syndrome is also considerably increased. Values reported in patients with proven Zollinger-Ellison Syndrome without prior gastric resection usually exceed 2000 ml. and contain 80 to 120 mEq. of hydrochloric acid. In contrast the normal values range from 190 to 800 ml./12 hours containing 12 to 20 mEq. of hydrochloric acid.[6,34]

Results

In order to determine as accurately as possible gastric secretion in such a small

pouch (80-90 per cent resection) it was necessary to fashion a collection tube as follows: A #16 French red rubber catheter with an opening only at the tip was used. A metal olive was secured at the tip and served both as a weight as well as a marker for the fluoroscopic positioning of the tube just below the esophagogastric junction. The volumes of all gastric aspirations were accurately measured and the total acidity determined by titrating with tenth normal sodium hydroxide to pH 7 with Neutral Red indicator. Basal secretion was determined by collecting four 15-minute samples and titrating in the manner described above. Fifty mg. of Histalog subcutaneously was used to measure residual parietal cell activity. Finally, 15 units of regular insulin administered intravenously was used in determining the adequacy of vagotomy.

Basal Secretion: Table 1 lists the basal secretory rate in the present case. The values of 161 ml. of gastric juice per hour containing 11.1 mEq. of hydrochloric acid

TABLE 1

BASAL SECRETIONS

	Time (min.)	*Volume (ml.)*	*pH*	*HCl (mEq.)*	*Concentration mEq. per liter*
P					
A	15	45	1.0	1.8	40.0
T	30	43	1.0	3.9	90.7
I	45	35	1.0	3.0	85.7
E	60	38	1.0	2.4	63.2
N					
T					
Total 1 hour		161	1.0	11.1	69.6
Normal		60–80		0.5–4.5	10–30
Post subtotal gastrectomy and vagotomy[37]				0.6–3.6	

are clearly excessive for both the normal stomach as well as the postgastrectomy state. Such high basal secretory rates are characteristic of the Zollinger-Ellison Syndrome.

Histalog Stimulation: Table 2 shows the response to 50 mg. of Histalog administered subcutaneously. The values so obtained are equal to those obtained in the normal, intact stomach and must be considered remarkable in view of the previous 90% gastric resection. It should be noted that Histalog stimulation in the present patient actually produced very little increase in hydrochloric acid production as compared to baseline secretion. A low ratio of post stimulation secretion to basal

TABLE 2

HISTALOG STIMULATION

	Time (min.)	*Volume*	*pH*	*HCl (mEq.)*	*Concentration mEq. per liter*
P					
A	15	24	1.0	2.4	100
T	30	45	1.0	4.5	100
I	45	32	1.0	3.1	96.9
E	60	50	1.0	4.1	82
N					
T					
Total 1 hour		151	1.0	14.1	93.4
Normal		120–150		8.5–15.0	50–100
Post subtotal gastrectomy and vagotomy[37]				0.3–7.2	

secretion has been another feature of previously reported cases of the Zollinger-Ellison Syndrome. The patient has a ratio

TABLE 3

HOLLANDER TEST

(15 units regular insulin I. V.)

Time (min.)	*Blood Sugar mg. per 100 ml.*	*Volume (ml.)*	*pH*	*HCl (mEq.)*	*Concentration mEq. per liter*
Fasting	80	28	1.0	2.5	89.6
15		13	1.0	1.2	92.3
30	34	12	1.0	1.1	91.7
45		13	1.0	1.3	100
60	50	37	1.0	3.8	102.7
75		24	1.0	2.7	112.5
90	58	18	1.0	2.1	116.7
105		28	1.0	2.8	100
120	64	18	1.0	2.0	111.1
Total		163		17.0	104.2

of 76% whereas values above 60% are highly suggestive of the Zollinger-Ellison Syndrome.[35] It is assumed that the gastric parietal cells are continually secreting at peak activity[10,11] under the influence of high levels of circulating gastrin and fur-

ther stimulation with histamine produces little increase in secretory activity.[12,36]

Insulin Hypoglycemia: Table 3 lists the results of the Hollander test in the present case. It can be seen that following the administration of 15 units of regular insulin there was a maximum rise in hydrochloric acid concentration at 27.1 mEq./liter over the pre-stimulation value. Although this test is positive by Hollander's criteria, we consider it borderline since there was no increase in hydrochloric acid production. To be noted, however, are the extremely high concentrations of hydrochloric acid secreted throughout the test.

Nocturnal Gastric Secretion: Table 4 lists the results of the overnight gastric aspiration. The 12-hour volume of 790 ml.

TABLE 4

NOCTURNAL GASTRIC SECRETION

	Volume ml. per 12 hours	*HCl* mEq. per 12 hours	*Concentration* mEq. per liter
Patient	790	53.7	68.0
Normal	190–800	12–20	10–30

would be considered at the upper limit of normal for the intact stomach and probably represents some admixture with bile and small intestinal secretions in view of the gastrojejunostomy. However, the total 12-hour acid output of 53.7 mEq. is some three to four times in excess of that produced by the normal, intact stomach and its acid concentration, despite probable admixture with alkaline secretions, significantly exceeds the normal.

We believe therefore from the studies presented that the diagnosis of the Zollinger-Ellison Syndrome appears justified in this case despite our inability to demonstrate an islet cell tumor of pancreatic or extrapancreatic origin. The patient, currently asymptomatic, is being carefully followed for signs of an islet cell tumor. It is our hope that the material presented will stimulate further studies of gastric secretory function in patients who have undergone a subtotal gastrectomy and gastrojejunostomy.

Summary

A case of probable Zollinger-Ellison Syndrome in a patient with a previous gastric resection has been presented. The diagnosis has been based on the following features: (a) A fulminating peptic ulcer diathesis despite adequate medical treatment and five surgical procedures. (b) Hypersecretion of the remaining gastric pouch. (c) Lack of increased gastric secretion following Histalog stimulation. (d) Striking clinical improvement following total gastrectomy.

Detailed gastric secretory data have been presented and interesting aspects from the current literature are reviewed.

Editor's Note: A complete Reference List may be obtained in reprints from the authors.

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Sclero-Cystic Ovary and Subclinical Vitamin C Deficiency

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Proper nutrition, including adequate vitamin C, is essential to good health. It is also helpful in the treatment of some gynecological disorders of young females.

BRIN[1] has stated "The demonstration of a specific biochemical defect in a vitamin deficiency, before the onset of clinical disease, confirms the essential function of the vitamin in the maintenance of normal cellular metabolism."

"It has been assumed that a decreased blood concentration of an essential nutrient is evidence of a decreased saturation in the body of that nutrient. Such a concept is based on 'normal' or 'lower limit' of normal values, which unfortunately have been extremely difficult to determine. Chemical studies of blood plasma are therefore not entirely satisfactory." [2] Saturation tests, if they could be developed, would be much more useful, but the variety of these procedures would indicate that none is satisfactory. The diagnostic burden placed upon these tests is frequently too great. "One such procedure involves the observation, during a period of four hours, of the responses in the blood and urine to the intravenous administration of 500 mg. of ascorbic acid. In a normal individual, the typical saturation curve shows an immediate (5 minute) rise in the blood level from the fasting concentration of 0.7 mg. per 100 cc. to 4.5 to 9 mg. per 100 cc., followed by a very gradual fall from this peak. Such a curve indicates that the vitamin is not rapidly absorbed by the tissues and infers that they contain adequate amounts of ascorbic acid. During the four hour period, 40% or more of the test dose is excreted in the urine. Contrariwise, in a patient suffering from an advanced deficiency there is only a slight and variable rise (usually less than 0.4 mg. per 100 cc.) above the low fasting blood level, followed by a rapid fall, indicating the avidity of the tissues for the vitamin." [3]

Krehl, in the evaluation of nutritional status of teen-agers, reported "serum vitamin C levels in significant segments of the population under study were low by accepted standards." [4] Bridges found that "Subnormal vitamin C storage presumably is a fairly common occurrence." [5] "Subclinical vitamin C deficiency is relatively widespread" according to Sebrell.[6]

In a study upon guinea pigs, which resemble man in not being able to synthesize vitamin C, King and Menten[7] state that "there is a zone of vitamin C deficiency where signs of scurvy are not present, in which the animal is more sensitive to injury from diphtheria toxin" (stress) "than control animals on an adequate vitamin C intake."

Roe,[8] who developed the authoritative biochemical method of determining vitamin C levels of whole blood and plasma, has set forth the following interpretations of plasma levels per 100 ml.: "below 0.1 mg.—deficient; 0.1 to 0.19 mg.—low, poor wound healing; 0.2 to 0.4 mg.—acceptable,

moderate storage; 0.4 to 2.0 mg, desirable, good storage." There is a large concentration of vitamin C in the adrenals, with the tastes, ovaries and corpus luteum following closely behind.

Stress reduces the vitamin C content of the body. It is suggested that emotional stress, and even menstruation in vascular susceptibles, may develop vicious cycles of pathophysiology leading to lowered vitamin C levels. "Stress hastens use of ascorbic acid by the adrenals; it reduces resistance to infections by mobilizing corticosteroid; it raises plasma lipid level and thus allows infiltration by the intima and the formation of clots in veins, or diseased arteries. Diet certainly is the main factor in achieving protection or in predisposing to early disability and death from clots in veins and from clots or plaques in arteries." [9]

The daily dietary allowance recommended by the Food and Nutrition Board of the National Academy of Sciences—National Research Council, is 70 mg. for the average healthy adult. An additional 30 mg. per day is recommended for women during the second and third trimesters of pregnancy and during lactation.[10]

It is being realized that saturation or near saturation is desirable for even the ordinary stresses of our present living. For the extraordinary stresses due to surgery[11] it has become commonplace to administer 300 to 1000 mg. of vitamin C daily. In vascular susceptibles it has gradually become my practice to saturate the patient. Vitamin C is excreted when intake is overabundant and it is only very rarely an allergen. Since the isolation and identification of vitamin C, the clinician has prescribed it in progressively increasing quantities. This is because we have become aware of the need for vitamin C saturation in order to cope with the accelerating emotional and physical stresses of our age.

The following case report (typically and increasingly encountered over the past 20 years) gives the usual history of poor eating habits—little or no fruit due to "too much acid" (without vitamin C supplementation) and low protein, high fat and high (refined) carbohydrate. This deficient diet calls to mind the admonition to omit all fats following cholecystectomy, the smooth diet prescribed in spastic gastrointestinal disturbances and ulcerative colitis, and the old unsupplemented Sippy diet for gastric ulcer.

Mrs. D.S.G., 16 years of age, with severe secondary anemia (hypochromic, microcytic)—pregnant. A protective nutritive diet of high protein, high (unrefined) carbohydrate (including whole fruit), and low salt, plus hematinics which included sufficient vitamin C, B complex, liver extract and iron was prescribed. Pregnancy terminated uneventfully after approximately 314 days with the production of a healthy infant which, however, weighed but 6 lbs. 14 oz.

The patient returned six months later in a deteriorated state of health having lapsed into her lifelong poor eating habits—low fruit, low protein, high refined carbohydrate and high fat diet. Physical examination showed this young mother to be much overweight, with bilateral ovarian cysts (simple follicle cystosis) of about 10 cms. in diameter, plus endocrine type ulcer of the cervix and mild menometrorrhagia.

Hemorrhage investigations reported by the pathologist were "Abnormal partial thromboplastin and thromboplastin generation times in the presence of a normal prothrombin time suggest a deficiency of one of the following plasma clotting factors (VIII, IX, XI, or XII) or a defect in platelet function (thrombasthenia).

Plasma ascorbic acid 0.72 mg.%; whole blood 0.75 mg.%.

Partial thromboplastin generation, 206 seconds; control, 75 seconds.

Thromboplastin generation, 19 seconds. Normal—less than 16 seconds. All of these findings are strongly indicative of vascular hemophilia (pseudohemophilia)."

Cervix biopsy shows evidence of "redundancy of endocervical fronds."

Protective diet was prescribed—high protein, high whole fruit, and Vitamin C—250 mg. three times daily.

2-6-65: Bilateral ovarian cystosis—much smaller, cervix healed, less menometrorrhagia. "Ascorbic acid plasma, 2.25 mg.%; whole blood, 2.19 mg.% (raised to about three times the pre-treatment level); partial thromboplastin, 134 seconds; control, 89 seconds."

3-6-65—Left ovary normal. Right ovary approximately 50% enlarged, cystic.

4-3-65—Genitalia normal. Possible early pregnancy. No ovarian cystosis.

4-26-65—Pregnant, normally approximately six weeks.

5-17-65 — Pregnant, normally, two months.

The excellent response in the conditions illustrated by this case history from the treatment used is undoubtedly due to improved nutrition. High protein, high (unrefined) carbohydrate and low fat intakes, with vitamin C in saturation doses, are the factors involved. Each of these factors probably contributes to the result but it is my impression, based upon my clinical observations, that the high vitamin C intake is the outstanding factor. The observations of King and Menten and others cited in the early part of this paper are basic. The part played by vitamin C only, is not demonstrable in clinical practice; however, studies by animal experimentation would be pertinent and useful in determining the specific effect of this vitamin in the clinical syndrome cited.

Taymore, Clark and Sturgis[12] in "The Polycystic Ovary" state in their summary "No typical pattern of clinical picture, ovarian size, or laboratory findings could be delineated." I have been impressed with the pathologic diagnosis of "hematoma" after having excised what appeared grossly to be intact "chocolate or endometrial cysts" of the ovaries, again suggesting subclinical vitamin C deficiency.

Much gynecological disease is in major part due to poor nutrition, e.g., subclinical vitamin C deficiency which allows bruising during ovulation, consequent excessive scar formation, subsequent inability to ovulate because of the scar, prolapse of the ovaries with formation of ovarian follicular cysts and ovarian cystosis (Stein-Leventhal syndrome?); leading in time to hormone imbalance, menometrorrhagia, pain, incapacity, and excisional (though not reconstructive) surgery.[13]

Conclusion

Considerable undernutrition appears to be widespread in our surfeited, overstressed population. Much degenerative disease[7] may be delayed and much excisional surgery obviated provided good nutrition is maintained. Saturation with vitamin C is, I believe, a very potent factor in treating young female vascular susceptibles with the pathophysiology of persistent simple ovarian cystosis, which may become increasingly prevalent with the widespread attack upon basic ovarian physiology by "The Pill".[14]

Vitamin C saturation, along with a protective high protein, high whole fruit diet, is earnestly recommended for all, but especially for vascular susceptibles with simple ovarian cystosis.

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Psychotic Student in College

In campus folklore, the odd or eccentric student always turns out to be a genius, but this often isn't the way it really happens. The lonely, disturbed young person diagnosed as a psychotic faces tough odds in college. Even if he receives psychiatric treatment, the ill but not completely disabled psychotic tends to leave school before graduation, and—with some notable exceptions—makes poorer-than-average grades.

A five-year study at the University of Illinois, Urbana, revealed that many of 108 psychotic students seen at the university's student health service suffered from typical characteristics of mental illness. They lacked persistence, were uncertain about goals, were dissatisfied with the curriculum, and had a "low frustration tolerance" for academic work. This group, most of whom were diagnosed as schizophrenics ("split personalities" in popular jargon), dropped out of college three times as often as a similar group of randomly selected, non-psychotic students.

There were exceptions, however. The withdrawn schizophrenic sometimes spends much of his time studying, has little social contact, and gets excellent grades. The study found that schizophrenics' grades were widely scattered—they performed either very well or very poorly. The majority were below average, but a few received excellent grades.

The nvestigation also reinforced what some physicians and educators have long believed: that it requires considerable effort to maintain these students in college. Approximately 40 per cent of the 108 psychotic students required hospitalization during their enrollment, and about half received medication. Psychotic students represented only 6 per cent of the patients seen by the university's mental health division during a four-year period, yet they look up 20 to 30 per cent of the staff's time.

The investigators raised questions about how worthwhile college enrollment is for the schizophrenic. With a record of psychiatric treatment while in school, even the college graduate has difficulty getting a job.

The authors are Theodore A. Kiersch, M.D., and Arthur G. Nikelly, Ph.D., both of the mental health division of the University of Illinois Health Service, Urbana. Their report appears in the July issue of the Archives of General Psychiatry, published by the AMA.

Clinicopathological Conference . . . .

Pulmonary Density and Early Post-Operative Death

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This conference was held on December 19, 1964

UVH # 53-09-31
Autopsy No. 9936

This 64-year-old metalworker was admitted for evaluation of a pulmonary density. For approximately six months previously he noted exertional dyspnea. There had been a dry cough, no sputum or hemoptysis, and an 8-10 lb. weight loss. Electrocardiogram showed changes compatible with an old diaphragmatic myocardial infarction and right ventricular conduction disturbance, which had not been present on an older tracing. There had been no episode of acute cardiopulmonary symptoms, however. Chest x-ray showed a right upper lobe density which had been absent the year before, and he was referred to this hospital. At his first admission here on August 30, 1964, additional history revealed that he had been previously in good general health, was somewhat emotionally labile, and tended to develop rapid heart action as well as dyspnea on exertion. There had been inconstant and mild ankle swelling during the past 18 months.

Past medical history included an episode of thrombophlebitis four years ago, treated with anticoagulants without apparent complications, and a probable milder recurrence two years later. His maternal grandmother had had pulmonary tuberculosis many years previously. The patient did not smoke, and his work did not appear to involve significant exposure to fumes or dust. During this admission, the presence of a density in the upper lobe of the right lung was confirmed on x-rays, bronchoscopy was negative, and tuberculin and fungus skin tests were negative. Sputum cytology was negative, and ventilatory function was normal. Arterial pO_2 was 68 mm. Hg (normal 75 to 100 mm. Hg) and pCO_2 was 36 mm. Hg (normal 40 mm. Hg). It was suggested that the pO_2 be repeated. He was discharged and admitted again on August 30, 1964, for surgery. Sputum grew out alpha streptococcus, a neisseria and *Pseudomonas aeruginosa.*

Physical examination showed a somewhat apprehensive, well developed man in no apparent distress with BP 150/90, P 88, R 20 and T 98. The few fine inspiratory rales at the lung bases noted on the first admission were no longer observed. There was a trace of ankle edema, no cyanosis and no clubbing. There was inguinal lymphadenopathy, not marked, more on the left than right. The intern described a systolic murmur in the pulmonary area and P_2 greater than A_2; a resident noted neither of these findings. The liver edge was palpable just below the right costal margin and was not tender.

Laboratory studies: Hematocrit 44%, WBC 10,400 with 81 segs, 14 lymphs, 4 monos. Urine normal except for 2+ proteinuria. EKG again showed as on the first admission a long PR interval, vertical axis, abnormal P waves, and Q waves in leads II, III and aVF suggesting old diaphragmatic infarction. The R and S waves in lead V_1 were of equal voltage.

Hospital course: On August 31 the patient underwent a right thoracotomy with biopsy of the right upper lobe lesion, which

had the gross appearance of granulomatous involvement. Postoperatively be did poorly, running a blood pressure in the range of 70 to 80 systolic. Since venous pressure was 100 mm. H_2O and hematocrit somewhat decreased from admission, blood was given without apparent benefit. Venous pressure rose. A cardiac consultant noted a rub at the left sternal border, an apical diastolic filling sound, and increasing T wave changes on EKG. He suggested a probably recent myocardial infarction. Digitalis and vasopressors were given. Respiratory distress increased, expiratory wheezes were noted generally, and the patient expired on the second postoperative day.

Clinical Discussion

Dr. Calvin M. Kunin: This patient's problem may be viewed from two different aspects. The first is the nature of the lesion in his right upper lung field, and the second is the cause of death. It is difficult to link the two together, and I will accordingly discuss this patient as though these were two separate problems. First, what is the nature of the lesion in the lung field? Lesions of this type are best viewed from the point of view of differential diagnosis. It is very tempting to be clever and try to guess the nature of this lesion, but with pulmonary infiltrates it is more important to play the game well than necessarily to win it; that is, it is best to make a careful differential diagnosis and then go through the steps to be taken in establishing the specific etiologic diagnosis. The major probable causes of this lesion would include neoplastic and infectious processes. In neoplastic diseases of the lung we must include tumors which arise in the lung itself and those which may be of metastatic origin. Primary tumors in the lung would be bronchogenic carcinoma and the various assortment of other primary tumors. Metastatic tumors most commonly seen in the lung arise in the stomach, pancreas and the large intestine. Of the infectious diseases of the lung, we must consider tuberculosis, histoplasmosis, blastomycosis, cryptococcosis and a number of less common fungus infections of the lungs. In addition, we must consider sarcoidosis even though this primarily involves the hilum rather than the periphery of the lung, and pulmonary infarct, although this seems most unlikely from the radiologic point of view. I had the opportunity to discuss this case with Dr. Craddock prior to the presentation of this CPC and he agreed with me on the differential diagnosis of infectious and neoplastic disease of the lung.

The remarkable thing about the patient is the large series of negative studies that we have. Thus, the patient was afebrile, did not have a leukocytosis and except for some dyspnea did not appear to be very ill. He was a non-smoker, his tuberculin was negative, and his fungous skin tests, which I take to be histoplasmin and blastomycin, were negative. Bronchoscopy and cytologic studies were negative, and there was no history of unusual exposures. There is no reason to believe that he had a neoplasm in any part of the body except the lung because of the absence of complaints referable to the gastrointestinal tract. If this person were to have a primary carcinoma of the lung, since he did not smoke, I would tend to believe that it would be an adenocarcinoma, bronchiolar or alveolar cell type.

In terms of infectious lesions of the lung, we must always consider tuberculosis because of its ability to mimic many other diseases, and because it is so commonly missed. The absence of the positive tuberculin test is disturbing, but this patient does have a family history of tuberculosis; therefore, we must put this number one on our list. Histoplasmosis may mimic tuberculosis in every respect and in view of its frequency must be placed second. Blastomycosis is not uncommonly seen in this hospital and must be considered when a lesion of this type is seen. Blastomycosis may occur with a negative skin test. For example, Dr. Smith[1] in North Carolina analyzed the skin test and complement fixa-

tion test in 40 cases of proven blastomycosis. Ten of these patients had early pulmonary or dermal infections, and their skin tests were positive and complement fixation tests negative. Ten patients had moderately advanced disease and their skin tests were positive and their complement fixation tests were borderline. Ten more patients had far advanced pulmonary or skin lesions, and they had negative skin tests and positive complement fixation tests. The complement fixation test in many fungous diseases is a sign of advanced disease, and when persistently positive suggests a poor prognosis. Finally, ten patients had overwhelming infection or incipient infection and in these patients both complement fixation tests and skin tests were negative. Our patient may be considered to have an incipient form of blastomycosis, and this is a very tempting diagnosis to make at a CPC.

Because of the greater frequency of tuberculosis on a statistical basis, one should not be tempted to go too far out on a limb and make this diagnosis with the type of evidence available. Cryptococcosis may produce a well demarcated pulmonary infiltrate with few systemic complaints, but these are commonly seen in the lower lung field and well demarcated. Actinomycosis should be mentioned but discarded because this is a primarily suppurative disease characterized by fever and malaise and frequently accompanied by cervicofacial lesions, which this patient did not manifest. Similarly, nocardiosis must be dismissed because this is also a highly suppurative disease. Aspergillosis may be mentioned. This is usually characterized by fungus balls within cystic areas in the lung and is usually superimposed upon a dibilitating illness or cortisteroid therapy. This also must be dismissed in this patient. Similarly, mucormycosis must be dismissed. Sarcoidosis always should be considered despite the fact this patient does not have a typical story. Certainly his negative skin tests are of interest in this regard, but we can not go any further with sarcoidosis at this time.

Finally, we may consider that the patient had a pulmonary infarct, but the x-ray picture does not go along with that finding. On the other hand, we must remember that the patient did have episodes of thrombophlebitis severe enough to warrant anticoagulant treatment. However, the patient has not had any chest pain or other signs of pulmonary embolism. We know, however, that pulmonary embolism may be silent but cannot say any more about this since the x-ray picture is certainly atypical. Since I am relying heavily on the radiographic findings, this would be a good time for Dr. Craddock's comments.



Fig. 1. Roentgenogram of the chest three weeks after another film gave a suggestion of central radiolucency of the density in the upper right lung field. The cavitation has disappeared from this film taken two weeks before the patient's death.

Dr. William Craddock: The initial films made at the referring hospital show a definite, soft, poorly demarcated density in the right upper lung field. There is a strong suggestion of central radiolucency or cavitation in that picture. Special views such as laminograms at that time might have helped to solve the question of cavitation. At this point the differential diagnosis in-

cludes all of the disorders mentioned by Dr. Kunin, and he has well indicated the relative probability of each. Our films, made three weeks later, show no evidence of cavitation, and our laminograms confirm that fact (Fig. 1). If this truly represents the disappearance of a cavity, then malignancy can probably be excluded. It would be most unlikely for a cavitary lesion due to primary or metastatic neoplasm to show the resolution implied by disappearance of a cavity.

Dr. Kunin: This does not look like an infarct, does it?

Dr. Craddock: No, the character and duration of this lesion are against its being an infarct.

Dr. Kunin: Dr. Minor, what about the possibility of a scalene lymph node biopsy clarifying the diagnosis here, prior to resorting to thoracotomy?

Dr. George Minor: Biopsy of the prescalene fat pad, including any lymph nodes available in the area, has been advocated as a means of identifying the cause of pulmonary lesions. A higher yield of positive results has been claimed if the dissection in this procedure is extended into the mediastinum. However, the lesion here is a relatively small, or early one, and is peripheral in location. In my experience, the simplest and most effective way of dealing with such a lesion, both for diagnosis and treatment, is to resect it.

Dr. Kunin: Thus, I must make my diagnosis on the basis of probabilities as we ordinarily see them with lesions of this type on x-ray. As stated previously, it is not necessarily the brilliant diagnosis that counts but the way one goes about making the diagnosis. I believe the most likely cause of this patient's pulmonary infiltrate was tuberculosis, followed by possibly histoplasmosis, and less likely to be blastomycosis. What was the cause of death? This is early for a post-operative pulmonary embolism. He had evidence from EKG for an old myocardial infarction, and this appears to be the likeliest explanation, again on the basis of probability alone. There is little else to go on. Dr. Beckwith, can you comment?

Dr. Julian Beckwith: This man had hypotension and dyspnea, but showed no fresh electrocardiographic changes which were definite for new infarction. He seemed to be developing congestive failure. The "right ventricular conduction disturbance" noted in all of the tracings raises the possibility of right ventricular hypertrophy but is not very strong evidence in any direction. I felt he had probably had a second myocardial infarction.

Dr. John Guerrant: Several arguments against pulmonary embolism have been noted. However, if you put together the history of phlebitis, unexplained dyspnea for several months, the findings of pulmonary hypertension on one occasion by an intern, the EKG, and the arterial oxygen unsaturation, the picture becomes very suggestive of recurrent pulmonary embolism.

Dr. Kunin: Those are interesting points, Dr. Guerrant. It may be that we have emphasized the x-ray too much. It seems to me that the terminal event and the pulmonary density should have separate explanations. Myocardial infarction would be my guess for the terminal event. What did the resected segment of lung show on frozen section at the time of surgery?

Pathological Discussion

Dr. David E. Smith: We returned the diagnosis of infarct on the biopsy of the lung, much to almost everyone's consternation. Considerable speculation was made by all who were interested in the case concerning the possibility that the biopsy represented only a secondary surrounding complication rather than revealing the true nature of the lesion. By turning first to the lesion in the right upper lobe, I can illustrate for you that the autopsy shows that this lesion was truly an infarct. Figure 2 illustrates its gross appearance with

a central depigmented zone and a surrounding border of darker hemorrhagic infusion. The central zone indicated that this was an old lesion, while the more peripheral hemorrhage suggested a recent extension that



Fig. 2. Old infarct in the upper lobe of the right lung.

may have been at least in part a complication of the operation. This whole lesion was only a little more than 1 cm. in diameter.

fibrin and the remnants of hemorrhage. There is no evidence of infection or tumor. Rather marked fibrous pleural adhesions were present in the region of this lesion as well as over areas of the lower lobe of the right lung and a few places on the upper lobe of the left lung.



Fig. 4. The dissected pulmonary artery showing its distension by a large thrombus of dense and hyalinized fibrin. Softer red thrombus fills a channel along the posterior wall of the artery.

The heart and pulmonary arteries were the seat of a most remarkable process. The heart itself was enlarged to 500 grams and

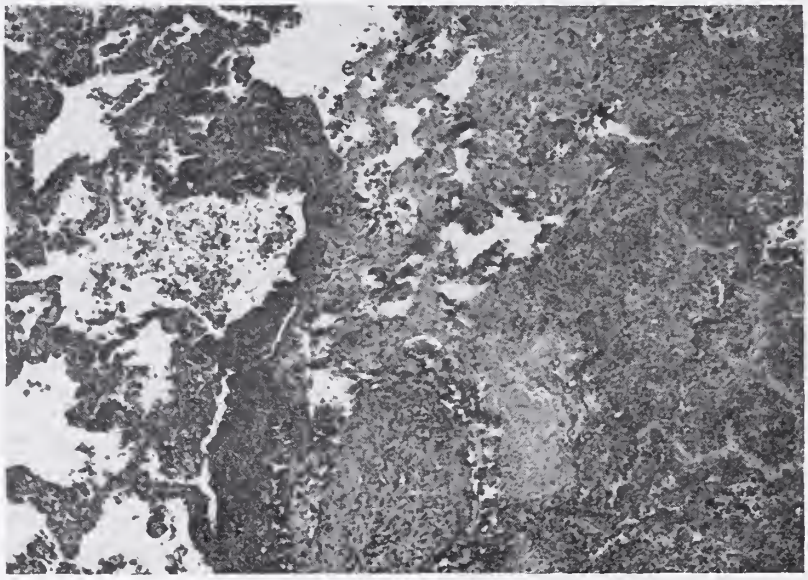


Fig. 3. Old infarct of the lung with central hemorrhage and coagulative necrosis and peripheral organization. There is no evidence of tumor or infection in this lesion. (H. & E. stain, approx. 65X.)

The next figure (Fig. 3) illustrates its microscopic features of coagulated and necrotic alveolar walls buried in debris and showed distinct hypertrophy of the right ventricle. In the pulmonary artery (Fig. 4), beginning just above the pulmonary

valve, there was a huge thrombus. Its more proximal portions were red and soft, but by the level of the bifurcation the majority of this thrombus was composed of dense

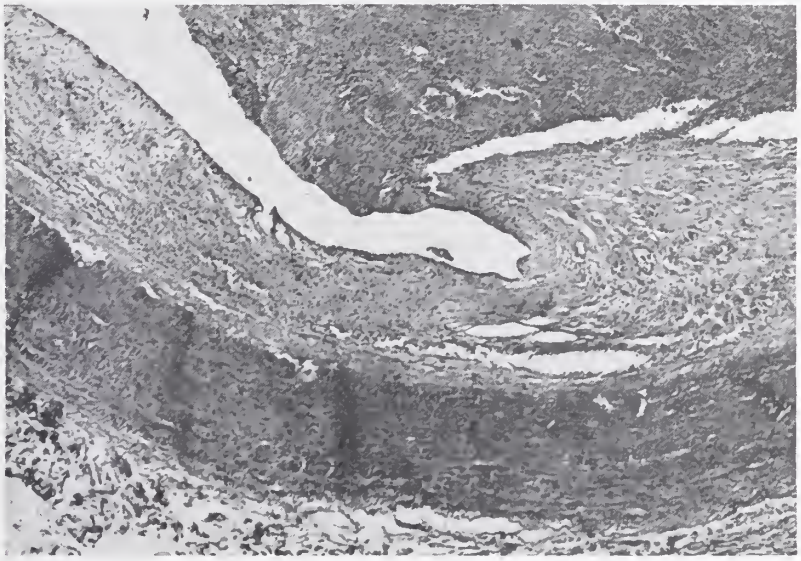


Fig. 5. Microscopic section of the thrombus in the main pulmonary artery illustrating its hyalinized nature and peripheral organization. (H. & E. stain, approx. 50X.)

and hyalinized fibrin packed closely against the arterial wall. The thrombi extended out to the primary branches of each pul-

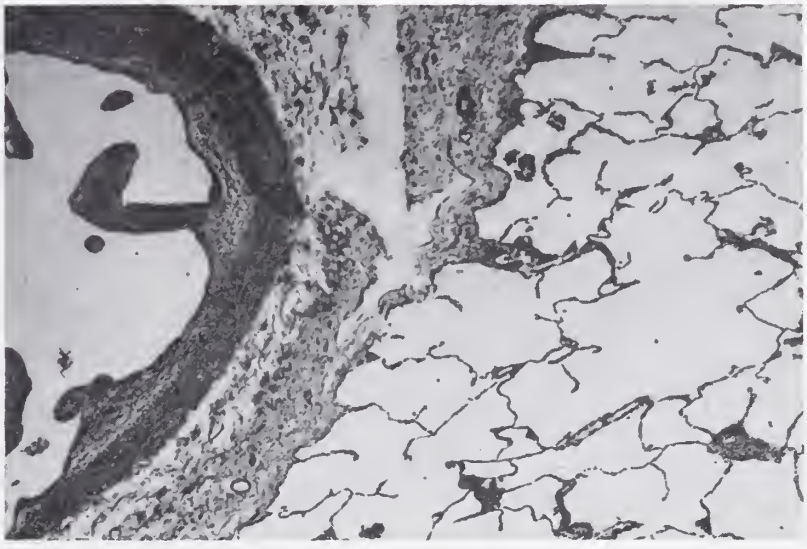


Fig. 6. Lung with very old and recanalized thrombus in a small pulmonary artery and normal alveoli. (H. & E. stain, approx. 50X.)

monary artery and further. Over four-fifths of the lumen of each major pulmonary artery was filled by the dense, old thrombus. Posteriorly there was a softer, red area which represented the persistent channel that had probably been finally occluded only in the terminal phases of this patient's illness. Microscopic study of these thrombi (Fig. 5) shows that they present areas of definite fibrous organization as well as the acellular masses of compressed fibrin. Further sections through the pulmonary parenchyma uncovered thrombi in almost all recognizable branches of the pulmonary arteries. In Figure 6, a histologic section shows that many of these were quite old and recanalized. The pulmonary paren-

chyma, in contrast, showed no important degenerative or inflammatory changes.

There was no evidence of a major lesion in the heart, other than the enlargement of the right ventricle. The coronary arteries contained only slight atherosclerosis, and even on microscopic examination there were only very small, widely scattered areas of slight interstitial fibrosis. The liver, spleen and kidneys showed evidence grossly and microscopically of rather marked congestion, which has been interpreted as correlated to the final cardiac failure on occlusion of the pulmonary arteries.

Thrombosis of the major pulmonary arteries is a rare but well recognized condition. It is well summarized by Spencer[2] in "Pathology of the Lung", and several references to the literature can be obtained from that source. The most attractive concept of etiology suggests that this condition arises by extension and complication of thrombi wihch are originally emboli. The cases can be of remarkably chronic duration. The anatomic and clinical evidence in this case suggest that this man's disease began at least four years ago, and nearly all of his complaints were related to the insidious spread of thrombosis of his pulmonary arteries. Eventually, after his thoracotomy, his congestive failure increased and became absolute when the last portions of the lumens of the major pulmonary artery were filled with recent thrombi.

The major clinicopathologic correlations in this case were well summarized by Dr. Guerrant, and the autopsy has done little more than confirm his suggestions. Certainly, no other complications were revealed. We did not demonstrate a specific source of the presumed first emboli to the lungs; however, they were probably from events that occurred two to four years before the patient's death and were fairly certainly recognized by the physicians taking care of the patient at that time. More intensive exploration of the legs would have been expected to have given evidence of organized venous thrombi, which we would have been happy to accept as the residue of the initial events that led to episodes of pulmonary embolization and infarction on several occasions, progressive thrombosis of the pulmonary arteries, strain on the right ventricle, further episodes of infarction of the lung, congestive failure, and finally complete occlusion of the pulmonary arteries.

Editorial Note

Dr. Lockhart B. McGuire: I do not know why this right upper lobe infarct remained so stable on x-ray during the approximately three week period of this man's observed illness. An infarct would be expected to show organization and shrinkage, and I can understand how it was misinterpreted here. Dr. Guerrant pointed out the aspects of the story which do suggest recurrent pulmonary embolism. In retrospect, if the physical findings of pulmonary hypertension, which were suggested by the intern, had been confirmed, it would have been appropriate at least to do a lung scan with radioactive macroalbumin.[3] This would probably have pointed to the correct diagnosis.

This man had had recurrent pulmonary embolism over a period of many years. A series of such patients from Scandinavia was thoroughly reviewed last year.[4] About half of these patients had shown some episode of peripheral venous thrombosis, and the majority gave a history of at least one episode of suggestive, acute, cardiopulmonary symptoms. Nevertheless, the overwhelming impression one gets from these cases is how silent and unimpressive the accounts of their clinical findings usually are until advanced right-sided heart failure develops. This patient illustrates that well. He did not have the enlargement of main pulmonary artery branches on x-ray which eventually accompanies most cases of recurrent pulmonary embolism.

If this man's problem had been recognized by means of scan and angiography, it is difficult to say whether he could have been satisfactorily treated. Although pulmo-

nary thrombo-endarterectomy for chronic embolism has been reported,[5] our impression from most pathologic evidence in such cases is that useful pulmonary circulation is unlikely to be restored after prolonged occlusion. We have resorted to permanent anticoagulation and interruption of the inferior vena cava.[6] The patients in Wilhelmson's series[4] generally died either from chronic cor pulmonale or more emboli at intervals of from six months to five years after their disease were recognized.

FINAL ANATOMICAL DIAGNOSES: *Thrombosis of the pulmonary arteries; hypertrophy of the heart, especially of the right ventricle; infarct of the right upper lobe of the lung; congestion of the viscera.*

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Take a Walk

Take a long walk, every day, if you can find the time. Any sort of walking is good, but a brisk walk is better.

Walking or hiking is an excellent exercise that involves many of the muscles of the body. One of its big advantages is that walking is universally available as an exercise nearly every day of the year. The strain of the activity depends on the pace and distance.

Walking can have mental health values, as well as aid physical health, if we learn to enjoy the exercise and the open air, says a pamphlet from the American Medical Association. Pleasant physical activity can help to relieve emotional tension. Exercise is most likely to be enjoyable when the activity is done with ease and skill.

Like any form of exercise, walking requires a period of gradual conditioning before all-out effort. If you're out of training, start slowly with short hikes and gradually build up the time and distance.

The feet take quite a beating in walking. Be sure that shoes fit properly, are well broken in and have no rough spots inside. Wearing two pair of socks helps. The feet function best when the toes point straight ahead in walking. Walking with toes turned in or out distributes the body's weight unequally on the feet.

The American Medical Association cautions the untrained person against an exercise orgy in hiking or in any other vigorous physical activity. The enthusiast who tries to do it all at once often ends up with stiff muscles and a stiffer resolve to avoid exercise in the future.

Mental Health . . .

SARA M. CECIL
ELIZABETH GULLEDGE
BETSY M. LOW

The Image of the Social Worker

Both professional and non-professional groups are interested (and sometimes concerned) with their "image". Such composite image does appear to have some validity. A cartoonist, for example, in attempting to depict a typical psychiatrist is likely to draw him with a beard or heavy horn-rimmed spectacles. Al Capp, creator of Little Abner, would probably depict the social worker as a young, aggressive, beautiful "do gooder". Stereotypes are also commonly held for other groups such as farmers, bankers, politicians, etc.

As social work students, the authors thought it might be interesting to find out how a social worker appeared in the eyes of another professional group. A questionnaire was devised for the psychiatrists in Virginia in an effort to determine what the "body politic" of Virginia psychiatry felt was a "typical social worker".

The material to be reported here is abstracted from a thesis written by the authors in partial fulfillment of the requirements for the degree of Master of Social Work at Richmond Professional Institute. The authors felt it would be possible to use such a questionnaire to find the strengths and weaknesses of social workers in the minds of the members of the psychiatric profession. It was felt also that from this thesis they would be able to get information from a critical audience about the professional competence of social workers. An ultimate goal was considered to be an improvement in the working relationships between the two professions which would result in a more comprehensive and beneficial service to clients or patients.

Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

The questionnaire was sent to 173 psychiatrists. The response was good. A hundred and twenty-one of the questionnaires were returned completed. The data was collected during the months of November and December, 1965. The questionnaire covered the image of the social worker, the competence of the social worker engaging in psychotherapy, the manner and efficiency of patient referrals to psychiatrists, the psychiatric skills of social workers, the attitude of social workers and some of the feelings about existing conflicts between psychiatry and social work. Analysis of the date (among other things) revealed a composite image representing the answers given most often by the respondents to questions about the personal characteristics, abilities, training and competence of the social worker. The data can be summarized as follows:

Psychiatrists practicing in the State of Virginia saw the social worker as white, married, between the ages of 36 and 45, and female. Of the 121 respondents, only six felt that most social workers were male. (Since 108 of the respondents were male, it seems noteworthy that the majority of the sample felt that social work was not a profession most often practiced by members of the male sex and that perhaps male psychiatrists' image of the social worker was influenced by their general feelings about women.)

The social worker, seen as a female, was described as an active member of the community, appropriately dressed, from an upper middle-class background. She was most often employed in a psychiatric setting and displayed more professional competence than social workers in other set-

tings. She handled daily living problems in a balanced manner and related to other people with warmth. She identified appropriately with patients while recognizing the uniqueness of individuals. She showed ability to establish and sustain purposeful working relationships and accepted appropriate criticism and suggestions by qualified persons. Although she was felt to have the training to do the job which the psychiatrist felt she was expected to do, there was not universality of agreement on this question. Of the 116 psychiatrists who responded to this question, 99 answered "yes" and the other 17 answered "no". In other words, a significant number of psychiatrists felt that the training of the social worker was less than adequate in certain aspects.

The majority of the respondents pictured the social worker as satisfactory in her attitudes and skills with her greatest asset being empathy and use of supportive treatment. The least satisfactory were her skills of interpretation and stimulating insight. It was felt that the social worker referred patients appropriately to psychiatrists. The social worker was seen as the person employed by an agency which dealt with emotional problems. Sixty five of the psychiatrists (more than half) indicated that they would employ a social worker to aid them in their private practice.

The findings seemed to indicate that female psychiatrists seemed to view the social worker more positively than did male psychiatrists in certain areas.

There did not appear to be good correlation between the number of years of practice of the psychiatrists and the image of the social worker. This was of interest because the authors had expected that there would be a correlation between the length of time the psychiatrist had been in practice and his image of the social worker.

There was frequently a wide difference of opinion between the respondents on specific questions. However, there was no high consensus regarding a definite "positive" or "negative" in any area of professional ability or competence of the social worker.

Possible recommendations that could be derived from the study would be that Schools of Social Work and the social work profession as a whole should attempt to encourage more men into the profession. It has long been recognized that men have much to contribute as members of the social work profession and add prestige and status not possible to an entirely feminine profession.

All of the psychiatrists who filled in the questionnaire had dealt with social workers in psychiatric settings whereas only a few had contacts with (1) school social workers, (2) public assistance workers, or (3) child welfare workers. This could indicate a reluctance of the psychiatrist to work with clients or patients in these three settings, or it could be that the workers in these three settings are not taking the proper initiative in making appropriate referrals to psychiatrists or seeking consultation with psychiatrists.

One of the recommendations of the thesis could be therefore that further studies be made to determine the reasons for lack of contact between psychiatrists and social workers in schools, public assistance programs, and child welfare.

The thesis would also support a recommendation that social work education be embellished by more training in psychiatry and psychotherapy.

The study suggests that more male social workers be recruited.

In final conclusion, the study reveals a belief on the part of the psychiatrist that possibly more training is needed in the handling of psychiatric patients, particularly in such matters as interpretation to the patients of their symptoms and stimulating insight.

While it was recognized and revealed that conflicts do exist between the two professions, the image of the social workers in the eyes of Virginia psychiatrists was found to be generally a positive one.

Diagnostic Laboratory Medicine . . . .

Banking Blood—By Freezing

Excellent recent articles about the freezing of blood, the selection of preservatives and protection of the erythrocytes during storage and during the thawing are available. The application of freezing toward medical interests has now become so extensive that an entire journal has been applied to the subject, that of "Cryobiology".

The situation existing in our blood banks in regard to the outdating of blood seems destined to lead to some method of storing blood effectively and economically for prolonged periods. In 1956, 4.5 million units of blood were drawn for transfusions; of this total volume, only 2.5 million units were *actually infused*. The loss of this high percentage of the blood collected is due to the fact that the best of the available blood anticoagulant-preservatives cannot adequately preserve blood for more than a 21 day period of storage at refrigerator temperatures.

Ever since the discovery of the first blood group system at the turn of the century, the demand for human blood has been steadily increasing. This increased use of hemotherapy accelerated by the ever increasing use of the heart-lung oxygenator, blood dialyzers and requirements for perfusion priming, therapy and replacement added daily to the problem of supply meeting demand. This annual increase in blood requirements and the relative inefficiency of the anticoagulant-preservative led to research for better blood preservation which would allow adequate preservation of blood over long periods of time.

As far back as 1937, some idea of preserving red cells was studied. In a large number of articles in "Biodynamico", B. J. Luyet reported on his studies of erythrocyte metabolism that were aimed at gaining knowledge for the purpose of prolonging erythrocyte viability. The nucleated cell, and later, the mature red cell was found to have enzyme systems, glycolytic pathways, electrolyte pump and a selective cellular membrane. It was thought that should it be possible to determine the process of aging it might then be possible to explore the feasibility of modifying the process to prolong the red cell life. Since then much has been learned, but not enough. Some success has been made in prolonging the viability of the erythrocyte for a short time by supporting the metabolic pathways.

As the viability of the red cell declines, adenosinetriphosphate decreases progressively. We are aware that potassium leaves the cell and enters the plasma while sodium enters the cell from the plasma. These and other facts were learned but still did not define the term "red cell aging". A number of workers showed also that red cell survival in acid citrate dextrose (ACD) is improved markedly if ACD blood is incubated at 37°C with an amount of adenosine prior to storage at 4°C. Post-transfusion survival of adenosine-ACD blood was found to be 50% after 60 days of storage while that of ACD blood was found to average 33% after 33 days of storage.

It became clear that changing the cellular metabolism was a way, but urgency for preservation and the need for preserving the red cells for much longer periods suggested another approach; perhaps placing the cell in an ametabolic state was the answer.

Since 1938, studies of the freezing of erythrocytes have progressed rapidly, from a thin film frozen on a slide to freezing many units of 500 cc each. Foremost among the various preservatives studied have been glycerol and dimethylsulfoxide (DMSO). Since 1950 glycerol has been shown to be a good preservative in the quick-freezing of red cells. One of the important reasons

being that it permits minimal ice crystal formation and it is non-toxic. There is a low degree of hemolysis with the use of glycerol. The Cohn fractionator has permitted the safe handling and deglycerolization of the blood, although the cost is $16.00 per unit for separation and requires one hour.

Investigators have found that the cells need not be returned to their autologous plasma for transfusion. The cells may be "expanded" with 5% albumin or any other physiological medium best fitting the patient's other needs. It was suspected that blood suspended in media deficient in platelets and/or fibrinogen and other factors could create bleeding problems. Clinical studies, however, showed these complications occur only in minority of cases.

Tullis et al., in 1960, maintained glycerolized blood after freezing up to 44 months at -80°C. The actual survival of the cells prior to transfusion upon thawing was 82%. The 18% loss was thought to be due to collection lesions, not storage hemolysis. The 24 hour survival of tagged transfused post-thawed deglycerolized cells was 84% to 96%; the mean was 90%, which is indeed adequate survival.

In a five year study of deglycerolized blood suspended in 5% albumin, utilizing 2,000 units for investigation, there was no significant rise nor fall in blood pressure, circulatory congestion nor cardiac overload. A study of the 44 month old blood revealed the cells to be viable, metabolically active and suitable for massive transfusion. Another finding was that post-thawed deglycerolized blood was stable and could be banked at 4°C for 2-3 weeks if resuspended in autologous plasma. If the cells were resuspended in 5% albumin, the blood was suitable for 1-2 weeks.

Another preservative has been studied—dimethylsulfoxide (DMSO). This organic solvent passes freely through the red cell membrane and is thought by some to be the best preservative at the present time. Recovery of post-thaw erythrocytes is 75-90%. Separation of DMSO post-thaw is inexpensive and hemolysis is no more than 2-5%. Unfortunately, however, the product recently has been shown to be toxic.

Preservation of red cells with PVP has been studied as has their treatment with resins. Evaluation of these materials awaits further study.

Cadaver blood, long under investigation and used in Russia, appears to have been used without problems when collected under certain conditions.

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Public Health . . .

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Medical Resources Management in Disaster

Immediately following a nuclear attack upon the United States all activities would be directed toward national survival and recovery. In Virginia, every resource available would be assigned immediately to activities concerned with the maintenance and the saving of lives. In the event the Federal government would be unable to function in the areas of medical resources and priorities for some time after a nuclear attack, Commonwealth officials would have to marshal and apply all such available resources in Virginia until national direction again became available.

In order to develop plans for such a situation, former Governor Harrison, in September 1965, directed the State Department of Health to establish an Emergency Health Organization to handle all emergency medical services. The Governor felt that effective management of this type of program required the incorporation of emergency organization and activities into a peacetime government health structure at the State and local levels. In order to carry out the Governor's directive, enabling legislation was passed by the 1966 session of the General Assembly.

The Emergency Health Organization as now constituted has two main divisions, namely: *Health Manpower* and *Health Materials and Facilities.*

Health Manpower is responsible for the role of physicians, dentists, nurses, veterinarians, medical and x-ray technicians, licensed practical nurses, nurses' aides, attendants and other ancillary personnel. In times of emergency, under the direction of the State Health Commissioner, this division would have to assure the most effective utilization of all available medical personnel. For example, in the event a physician were to lose his medical facilities in the disaster but he himself survive, he would be utilized in areas where facilities existed and the need for physicians was acute. Geographical boundaries would dissolve in the face of medical manpower needs.

Health Manpower is also responsible for the proper utilization and training of such manpower as is available. It exchanges manpower information with the Virginia Employment Commission.

The Material and Facilities Division is responsible for closing the gap between resources available and estimated medical logistical requirements in the event of a disaster.

The Division estimates existing locations, amounts and availability of all health items. This includes inventories and production facilities. One of its primary duties would be the establishment of priorities for the production of health items and the repair, renovation, conversion and construction of production facilities. Distribution of health items would be another one of its major functions.

The Material and Facilities Division also is responsible for the availability of medical-use facilities by type and location. It provides guidance to the counties on the use, construction, maintenance, repair and operation of all health facilities. It also advises as to the suitability of non-health facilities for assignment to health use in the event of a disaster. This division would have claims upon supporting resources such as fuels, electricity, water and food essential to human survival, and continuing the production of health items. For example, a firm manufacturing surgical blades plus non-

medical products would be assured of sufficient power to continue meeting the needs for surgical blades.

The Emergency Health Organization of the State Health Department cooperates very closely with all State officials. Management of post-attack resources is the responsibility of governmental agencies at all levels.

In the event of a nuclear attack, the execution of emergency plans would be a gigantic undertaking requiring the fullest cooperation of every available citizen if the nation is to survive. Many people have worked many hours to establish a smooth-working plan for resource management. Having done so, it is their fervent hope that it will never have to be put into operation because of an enemy attack upon this nation.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Aug. 1966	Aug. 1965	Jan.-Aug. 1966	Jan.-Aug. 1965
Brucellosis	2	1	13	7
Diphtheria	0	0	0	0
Hepatitis	33	49	393	514
Measles	64	47	2992	4238
Meningococcal Infections	4	2	57	49
Meningitis (Aseptic)	8	3	12	9
Poliomyelitis	0	0	0	0
Rabies (in animals)	12	9	202	275
Rocky Mt. Spotted Fever	10	10	26	34
Streptococcal Infections	494	434	9084	8148
Tularemia	0	1	2	6
Typhoid Fever	0	2	7	4

The Medical Society of Virginia . . . .

REPORTS FOR 1966 ANNUAL MEETING

Executive Secretary-Treasurer

Regardless of what has been accomplished by your Society during the past year, it is understandably overshadowed by one of the truly far-reaching events in the history of our nation—namely the implementation of Medicare.

As a result of this new program, medicine has had to adjust to new problems, new regulations and new procedures. The fact that it has adjusted so well is in itself testimony to the caliber and character of today's American physician. The American people continue to receive the finest medical care the world has ever known, and will continue to do so just as long as they permit the physician to remain free of further federal encroachment and interference. Whether the public will fully understand the situation and the tremendous stakes involved is the big unanswered question of the moment.

In his report last year—written while the Medicare struggle was still in doubt—your Executive Secretary took notice of the fact that the profession stood united. Now that Medicare is a reality, it is more imperative than ever that physicians carry on their practice with the strength and determination that are possible only through unity of action and purpose. It is with this thought that the membership is reminded of the resolution adopted by our own House of Delegates in October, 1965. This particular resolution emphasized "the importance of the time-honored, basic right of physicians to set their own reasonable fees", and urged that physicians "continue to bill patients directly in the traditional ethical manner".

These are indeed crucial times in which we live. But, they are also interesting times—times that pose a challenge which should arouse the competitive instinct in every true American. Because of this challenge medicine is depending more than ever on strong, active local and state medical associations to provide the leadership and policy capable of maintaining the professions' present degree of excellency. Your Society has served Virginia and her physicians well since 1820. It intends to serve them even better in the years ahead.

Now let us take a quick look at a few of those activities, events and operations which were of particular concern to your state office staff:

Finances: The Medical Society of Virginia continues to operate on a sound financial basis. This is one thing we have insisted upon over the years, and the auditor's report—to be published in the December issue of the Virginia Medical Monthly—will show what degree of success your officers and staff enjoyed in 1965-1966. Although expenses were unusually heavy this year, the report will undoubtedly reveal that the Society is in an enviable financial position during these days of inflation.

There were two items, however, which did place an unforeseen strain upon the budget—an unusually active session of the General Assembly where matters of interest to medicine were concerned, and the necessity of including the Society in the federal-state program of unemployment compensation. The latter came about as the result of a decision to obtain a ruling based on current statutes.

Personnel: It will be recalled that when Mr. Smith left the Society last year to establish an AMPAC regional office in Atlanta, Mr. David Pillsbury was employed to fill the vacancy. Unfortunately, the stepped up draft call, brought on by the worsening situation in Viet Nam, caused Mr. Pillsbury's stay with the Society to be of short duration. He is now on active duty with the Air Force.

As a result of this unexpected loss, Mrs. Spring was assigned the duties of Mr. Pillsbury, and will from now on handle both State and AMA records and billings.

The number of staff employees remains at five—still the lowest in the nation for a Society of over 3,000 members. Mrs. Lillian Edmunds joined the staff to take over the secretarial duties of Mrs. Spring, and Mrs. Evelyn Stockmar came with the Society when Miss Peggy Tucker returned to her home in Crewe.

Your Executive Secretary sincerely believes the present staff to be one of the best balanced in the Society's long history, and takes this opportunity to express his appreciation of the cooperation and "extra effort" he has received from each staff member.

Membership: Although the membership total continued its upward climb, it would seem that the increase should have been greater. There is little doubt that nearly all new members of component societies joined The Medical Society of Virginia. Our main concern, however, is whether all physicians coming into the state are affiliating with their local groups. The membership facts and figures follow in detail:

July 31, 1965			3,319
New	144		
Reinstated	7		
Increase		151	
Deaths	47		
Resignations	23		
Dropped	26		
Decrease		96	
Net Increase			55
July 31, 1966			3,374

Committees: Forty-three committees served the Society during the year. While our committee structure might impress some as being a bit top-heavy, we have always believed that the number of committees is of no real concern as long as they are functioning and filling a need. Each member owes it to himself to read the committee reports on the following pages.

Meetings: This has been a busy twelve months for

Society officers, committee chairmen and special representatives. Among the many meetings and conferences at which your Society was represented were three sessions of AMA House of Delegates (one special), the AMA Public Relations Institute, an annual Workshop conducted by the Medical Society Executives Association, the annual meeting of the Professional Convention Management Association, the National Rural Health Conference, a special AMA legislative conference, the 4-H Club award ceremony at Blacksburg, the national AMPAC Workshop at Washington, the annual meeting of the Richmond Public Relations Association, the annual meeting of the Virginia Association of Professions, two sessions of the Virginia Board of Medical Examiners. a national conference of mental health committee chairmen, the annual meeting of the Virginia State Dental Association. the annual meeting of the Virginia Pharmaceutical Association, the annual meeting of the Virginia Medical Assistants Association, a national conference on medical education, the annual meeting of the Virginia Council on Health and Medical Care, a statewide conference on Medicare and hospital-based physicians, the annual meeting of the National Health Council, a regional meeting on Appalachia and the national AMA legal conference.

Conferences: The second annual conference on the Medical Aspects of Sports was held in Charlottesville —once again in cooperation with the Virginia High School League. One hundred physicians, coaches and trainers attended the afternoon program and 150 were on hand for the evening festivities. This was almost double the attendance of last year.

A Senior Day Program was presented once again for the senior medical students of the Medical College of Virginia. The affair was held at Richmond's Executive Motor Hotel and was unusually well received. Dr. Alexander McCausland, President of The Medical Society of Virginia, spoke to the graduates about their responsibilities and obligations in the days ahead.

The Society regrets very much the conflict between acceptable dates and facilities in Charlottesville which prevented a similar program being presented for senior medical students at the University of Virginia.

In an effort to assist Virginia physicians, hospital administrators and chiefs of staff obtain answers to their many questions concerning utilization review committees, a special one day conference was held in Richmond during the spring. An attendance of more than 250 provided evidence of the interest and concern of those who must shoulder most of the responsibility for utilization review under Medicare.

Once again, the Committee on Mental Health co-sponsored a symposium at Richmond's Westbrook Psychiatric Hospital. These symposiums have stimulated a great amount of interest among physicians in general practice.

Virginia Medical Monthly. Those who qualify as authorities on the subject, tell us that the Virginia Medical Monthly is unquestionably one of the very best state medical publications in the nation. This, of course, is a well-deserved tribute to Dr. Harry J. Warthen, editor, and Miss Spencer Watkins, managing editor. These two able people, with the assistance of the editorial board, have put together the most readable "monthly" we can recall. This has been especially true of the last two years. When members are prompted to write "letters to the editor", they provide all the proof one needs of genuine reader interest.

We have encouraging news to report from the advertising front. Advertising volume has increased during the year and all indications are that the trend may well continue. While this gain has been partially offset by increased printing costs, there still remains the hope that the "Monthly" will soon again be on a "self-sustaining" basis.

President and Council: Two meetings of Council have been held since the first of the year, and a third has been scheduled for October. One of the meetings (April 24) was a special session called by the President for the purpose of reviewing the Heart, Cancer, Stroke program and taking action on a report submitted by the Society's own Heart, Cancer, Stroke Committee. Minutes of that special session were published in the June issue of the Virginia Medical Monthly.

Through the years, The Medical Society of Virginia has been blessed with strong, able Presidents. This year has been no exception. Rarely does there happen upon the scene an individual who possesses all the qualities that make a great leader. Such a man is our current President—a tireless and fearless fighter for the cause of a free medical profession.

There are many ways your Society can serve you. If you are not familiar with them, why not drop by your headquarters the very next time you are in Richmond and talk with the staff about your needs, problems and plans. The welcome mat is always out.

ROBERT I. HOWARD,
Executive Secretary-Treasurer

AMA Delegates

The 1966 Annual Meeting of the American Medical Association was held in Chicago the latter part of June —just before Medicare became effective. As one might imagine, many of the reports and resolutions considered by the House were prompted by this ominous cloud hanging over the profession. It is, of course, neither practical nor possible to attempt to cover all the matters considered during the meeting. We would, however, like to review some of the more important.

Billing Procedures

The practicing physician will be particularly interested in those resolutions which recommended that the direct billing approach be used rather than the assignment procedure where Medicare is concerned. At the same time, the House pointed out that adoption of these resolutions should not be interpreted as contravening the statement approved at the Special Session in October, 1965, which said:

> "The American Medical Association opposes any program of dictation, interference or coercion, whether direct or indirect, affecting the freedom of choice of

the physician to determine for himself the extent and manner of participation or financial arrangement under which he shall provide medical care to patients under Public Law 89-97."

Consideration was also given the right of physicians to bill patients under Title 19 of Public Law 89-97, and an amendment was passed stressing the fact that direct billing had been recommended under Title 18 by the Board of Trustees and the Council on Medical Service. Each state medical association was requested to work diligently toward the end that any plan or law adopted for approval under Title 19 would include authorization for direct billing.

Hospital-Based Physicians

It could well be that the following resolution was the most important and far-reaching adopted during the entire session:

"WHEREAS, The Principles of Medical Ethics declare that a physician shall not dispose of his services to a third party or 'lay' organization, and

"WHEREAS, Title XVII of Public Law 89-97 recognizes the principle of the separation of professional and hospital costs for services rendered by hospital-based physicians; and

"WHEREAS, This principle has been advocated by the AMA, the American College of Radiology, the American College of Pathologists, and many regional organizations, and

"WHEREAS, A great number of hospital-based physicians throughout the nation have declared their intention to bill separately for their professional services in keeping with this principle; therefore be it

"RESOLVED, That, since separate billing by the physician for his professional services is a preferred ethical practice, it shall be deemed unethical for a physician to displace a hospital-based physician who is attempting to practice separate billing when said displacement is primarily designed to circumvent separate billing."

Medical Ethics

In acting upon a Board of Trustees recommendation that a physician may participate in the ownership of a pharmacy or regularly dispense drugs, remedies or appliances or provide eyeglasses to his patients *only when approved by his component and constituent medical associations and when it is determined by them to be necessary in the best interests of the patient,* the House approved the following reference committee statement:

"The Principles of Medical Ethics provide: 'Drugs, remedies or appliances may be dispensed or supplied by the physician provided it is in the best interests of the patient.' Your reference committee reaffirms the 1963 House of Delegates interpretation of the words 'in the best interests of the patient,' which reads as follows:

"'It is the opinion of the Judicial Council that this language was adopted to permit both the practicing physician and the local medical societies to evaluate the many factual situations incident to prescribing and dispensing which are bound to arise in the practice of medicine. Under this language the doctor is permitted to exercise his own best judgment when caring for his patient. It is known that there will be situations when it is necessary or desirable for a physician to dispense or supply what he has prescribed. The Principles permit this to be done. On the other hand, this broad language provides a means by which a component medical society can inquire into the facts of a particular practice. The profession thus can act to prevent abuse of discretion and protect patients from exploitation. In essence this language means that a physician in the exercise of sound discretion may dispense "in the best interest of his patient"; it does not authorize him to dispense solely for his convenience or for the purpose of supplementing his income.'

"The reference committee approves the goals sought by the Board's report, but disapproves its specific recommendations. It notes that mechanisms presently exist for processing charges of deviation from the foregoing ethic and urges that these mechanisms be made vitally active at local level. When charges of deviation develop, complaints should be made to the local society and vigorously processed by the appropriate committee of that society. If they are not resolved thereby, the complaints should then be carried to the state constituent association. The prudent physician will always seek the guidance of his local medical society in situations relating to ethical conduct."

The House directed the Board of Trustees to take action as expeditiously as possible to give wide dissemination to the reference committee report.

AMA Dues Increase

By a vote of 168 to 46, the House approved an increase in AMA annual dues from $45 to $70, effective January 1, 1967, thus confirming a Board of Trustees recommendation which was given initial approval at the 1965 Clinical Convention.

The House, in approving the dues increase, accepted a reference committee statement which said:

"It is quite apparent that the programs necessary to serve the needs of the members of the Association cannot be conducted effectively without adequate financing and it is equally apparent that such adequate financing is impossible without the dues increase requested by the Board of Trustees. Your Reference Committee reaffirms its confidence in the judgment of the Board of Trustees which has in the past and must in the future exercise the most careful and prudent stewardship over the assets of the Association. The Board of Trustees is the Committee elected by the House of Delegates to investigate and control the finances of the Association. The appointment of any other committee to perform this function would be most inappropriate."

New Officers

Dr. Charles L. Hudson, Cleveland, Ohio, succeeded Dr. James Z. Appel as President. Dr. Milford O. Rouse, Dallas, Texas, was named President-Elect.

Newcomers to the Board of Trustees were Dr. Burtis E. Montgomery, Harrisburg, Illinois, and Dr. Max H. Parrotte, Portland, Oregon.

Succeeding Dr. Rouse as Speaker of the House of Delegates is Dr. Walter C. Bornemeier of Chicago.

Miscellaneous Actions

During its consideration of a record number of resolutions and reports, the House also:

1. Endorsed the Declaration of Helsinki, already adopted by the World Medical Association, as a guide to those engaged in clinical medical investigation.
2. Reaffirmed its opposition to compulsory assessment of hospital staff members for funds to be used for hospital construction.
3. Strongly endorsed the AMA Volunteer Physicians for Viet Nam program and urged the entire profession to support it by word and deed.
4. Adopted a resolution urging constituent medical associations to oppose, as detrimental to the public interest, any proposed legislation which would authorize optometrists to engage in the diagnosis or treatment of disease or injury of the eye.
5. Agreed with a strong policy statement condemning the abuse of LSD and other non-narcotic drugs.
6. Reaffirmed its opposition to compulsory regulation of any single method, such as the use of generic terms, in the prescribing of drugs.
7. Received as information a comprehensive report on the relationship of medicine and osteopathy, which contains much material pertinent to future policy considerations, and also approved in principle a recommendation that doctors of osteopathy be commissioned in the Armed Forces Medical Services.
8. Agreed with a report recommending that the core curriculum plan for continuing medical education be not approved in its present form, that no further core curricula be developed at this time, and that various methods of continuing medical education be studied under the auspices of the Council on Postgraduate Programs.
9. Expressed opposition to the Hart bill (S. 2568), and all similar legislation.
10. Adopted reports from the Council on Medical Service on a Model Emergency Department Agreement and on Multiple Coverage in Voluntary Health Insurance.
11. Approved Board reports on Exercise and Physical Fitness, encouraging state and local medical societies to support the promotion of fitness programs, and on Venereal Disease Control, emphasizing the continued need for all physicians to report all cases that come to their attention.

VINCENT W. ARCHER, M.D.
W. LINWOOD BALL, M.D.
ALLEN BARKER, M.D.

Ethics

Your Committee had several matters referred to it during the year, and it is good to report that only one remains open as this report goes to press.

It is becoming increasingly clear that our rapidly changing times are making their effect known where medical ethics are concerned. There is an indication that physicians are often bewildered by the apparent conflict resulting from the clash of ethics and the ever increasing government regulated programs. Never has it been more important for the individual physician to review the principles of medical ethics and refresh his thinking in this regard. This is the best way we know to stay on firm ground during these unprecedented times.

Your Chairman represented The Medical Society of Virginia at the First National Congress on Medical Ethics and Professionalism, held in Chicago under the sponsorship of the American Medical Association. The program was quite comprehensive, and certainly served to point up the many questions which must be answered if medical ethics are to continue as the stabilizing force in American medicine.

RUSSELL G. MCALLISTER, M.D., *Chairman*
A. L. VAN NAME, JR., M.D.
ASHBY COLEMAN, M.D.

Public Relations

A great deal of water has passed under the proverbial bridge since your Committee last reported its activities, and we become more and more amazed how quickly things happen—and change—during these incredible times. This is truly the jet age!

The biggest event of the past twelve months has to be the implementation of "Medicare," and if physicians ever doubted the need of good public relations, their minds should now be at ease! Medicare is here—for better or worse—and how well the medical profession fares in the months and years ahead is going to depend in large on how it fares with the American public. In other words —our public relations had better be good—or else! It should be clear to one and all that physicians need the people of this great nation to help draw the line beyond which the federal government must not go. The public—and only the public—can determine whether medicine will remain free of further encroachment and control.

So—let a word to the wise be sufficient. Tell your story to your patients. Make them understand that your loss is their loss, that your untied hands mean better medical care for them, and that your freedom is their freedom. If you will do this, then there is yet a better than even chance that medicine in this country will retain those freedoms still intact.

Now let us briefly review some of our PR accomplishments of the past year. The most successful Senior Day Program ever was presented in Richmond for senior medical students of the Medical College of Virginia. The festivities were held at the Executive Motor Hotel and students and their guests were treated to an inspiring address by Dr. Alexander McCausland, President of The Medical Society of Virginia. In addition, planning manuals for medical practice facilities were given all those attending.

It was most unfortunate that a conflict between acceptable dates and available facilities made it impossible to present a similar program for senior medical students at the University of Virginia. We plan to try again in 1967.

The second annual conference on the Medical Aspects of Sports was arranged and presented by your Committee in cooperation with the Virginia High School League. Held in Charlottesville at the new University Hall, the conference attracted 100 physicians, coaches and trainers for the afternoon sessions, and 148 for the evening festivities. This was about double the attendance last year and everyone came away convinced that these sessions fill a very real need.

The VPI campus at Blacksburg was once against the scene of the 4-H Club awards ceremony. This particular event annually attracts some 1,200 persons, and The Medical Society of Virginia considers it a real privilege to be a participant. Actually, the Committee on Rural Health is the official sponsor of six awards for outstanding 4-H health projects. The Society was represented this year by Dr. Emory R. Irvin, who made the presentations in its behalf.

Your Chairman and Executive Secretary again attended the AMA Public Relations Institute in Chicago. The program was excellent in every respect, and we only wish every component society in the state could have been represented. One of the principal ingredients in any PR program is enthusiasm, and the AMA Institute is the best way we know to develop this quality at the local level. If anyone has a magic formula for inducing our local societies to send their PR chairmen to the Institute, please make it known to the writer.

Your Chairman represented The Medical Society of Virginia at the meeting of the National Health Forum in New York. The importance of having the Society represented is not generally known, but in many ways it is essential that state societies bring their influence to bear on the deliberations of groups like the National Forum. While such organizations have accomplished a great deal, and possess a real potential for good, it is nevertheless most important that medicine have a voice in what goes on.

The Virginia Association of Medical Assistants again came in for its share of attention, and we are pleased that this fine group made notable progress during the year. Your Chairman personally attended several meetings of the Association's Board, and can report that physician advisors were also on hand to offer guidance and assistance when needed.

Along this same line, it is good to report that Dr. Thomas W. Murrell, Jr., Richmond, was appointed by the President to serve as an official representative of The Medical Society of Virginia to The Virginia Association of Medical Assistants. Dr. Murrell, Chairman of the Society's Executive Committee, is in an excellent position to develop effective liaison between the two organizations.

Radio and TV continued to play their part in the overall PR program. Public service tapes and transcriptions were used by many stations over the State. In addition, the radio version of "Doctor's House Call" was offered in at least two areas. Fifteen inquiries from listeners were received and answered during the year. The Committee is indebted to Dr. Robert Bailey, Richmond, for his assistance in this regard.

And so we come to the close of another year, and cannot help but wonder what the future holds for Virginia physicians. One thing we do know, however, is that we cannot wait for the ball to bounce in our direction —we must make our own breaks. The best way to make those breaks is by practicing good public relations.

JOHN WYATT DAVIS, JR., M.D., *Chairman*

Membership

This has been a very quiet year for your Membership Committee—no problems and, consequently, no meetings.

It is good to report that your Society's membership total continued to increase. This is a most encouraging sign during these days when all physicians must work together if this country is to continue to enjoy the finest medical care the world has ever known. To the 144 new members of the Society, your Committee extends a hearty "welcome". All are encouraged to participate in Society affairs and take full advantage of the services and facilities at their disposal.

Your Committee takes this opportunity to nominate our President, Dr. Alexander McCausland, for honorary active membership in The Medical Society of Virginia. Never have we had a more dedicated leader. We have been fortunate indeed to have him at the helm during this most crucial year in the history of the Society.

PAUL D. CAMP, M.D., *Chairman*

Medical Service

The Committee on Medical Service was another which felt the impact of Medicare in its activities. This was especially true with reference to utilization and utilization review, and your Committee was instrumental in presenting a statewide conference on the subject in April.

The conference was a one-day affair, and was held at Richmond's Hotel John Marshall. Some 250 physicians, hospital and nursing home administrators, Health Department representatives and carrier personnel turned out to hear authorities on the subject present their views and answer questions. We sincerely believe the conference was one of the most successful ever sponsored by The Medical Society of Virginia.

Your Committee has long been interested in the future of Blue Shield in Virginia, and has several times indicated its interest in the eventual consolidation of the Blue Shield Plans operating in our State. In view of recent developments which seem to point up more than ever the importance of such consolidation, the Committee has considered and amended a resolution on the subject referred to it by Council. The resolution follows:

"WHEREAS recent developments affecting health care and the mechanisms by which the cost of such care is met have made it clear that only through united and concerted action can the voluntary prepay approach survive, and

"WHEREAS recent events surrounding the appointment of a carrier for Part "B" of PL 89-97 (Medicare) provided evidence that the differences existing between Virginia's two Blue Shield Plans are divisive, therefore

"BE IT RESOLVED that The Medical Society of Virginia believes the needs of the general public and

medical profession can be best and uniformly served by having but one Blue Shield Plan in Virginia."

At the request of Council, your Committee considered and endorsed the following resolution:

"WHEREAS the health and physical fitness of minors is the responsibility of the parents; and

"WHEREAS nevertheless it has become customary for certain organizations which sponsor youth athletic and camping programs to require physical examinations; and

"WHEREAS in many instances mass physical examinations have been organized; and

"WHEREAS furthermore the inferior mass type of examination may give parents a false sense of security regarding their children's health; now therefore be it

"RESOLVED that organizations sponsoring youth athletic and camping programs should simply require written permission from the parents; and be it further

"RESOLVED if such organizations nevertheless do require physical examinations, that such examinations should be done on an individual rather than a mass basis."

Lay laboratories once again came in for their share of attention, and the Committee learned that the problem is becoming more acute. There are, at the present time, no controls provided under Virginia law—nor is there any provision of licensure. Your Committee is of the firm opinion that Council should agree on a course of action before the 1968 session of the General Assembly and direct the Society's Legislative Committee to follow through. The Committee on Medical Service will make its recommendations known as early in 1967 as possible.

For some time a special subcommittee has been serving as a review board to cooperate with the health insurance industry on matters pertaining to fees. This committee has been unbelievably busy—reviewing and offering recommendations on problem cases referred to it by individual companies. We call your attention to this activity in order that you can appreciate the tremendous job this group is doing. It is, to say the least, a difficult and thankless task, and the Society is grateful to this review board for a job well done.

Another subcommittee is that dealing with rural health, and we are pleased that its chairman was able to attend the National AMA Conference on Rural Health held in Colorado Springs. It is helpful to have The Medical Society of Virginia represented at such meetings from time to time in order that we can properly evaluate our own efforts.

The Chairman wishes to take this opportunity to express his appreciation of the assistance and cooperation given him by members of the Committee.

WILLIAM D. DOLAN, M.D., *Chairman*

Judicial

The Judicial Committee met in Roanoke on the evening of May 10, 1966, with all three members attending. Subsequent telephone conferences were also held, and the following proposed amendments to the Constitution and By-Laws are presented after the most careful study and consideration.

CONSTITUTION

The following amendment to the Constitution is proposed:

Article VI—Council

Amend the last sentence to read as follows:

"The Editor, the Speaker and the Vice Speaker of the House of Delegates, and the State Health Commissioner shall be ex-officio members of the Council."

(The purpose of this amendment is to designate the Vice Speaker of the House of Delegates an ex-officio member of Council. This appears necessary if the Vice Speaker is to actively participate in Society affairs and effectively assume the responsibility of Speaker when required.)

BY-LAWS

The following amendments to the By-Laws are proposed:

Article VI—Election of Officers

Amend by deleting the first sentence of Section 1 and substituting the following:

"The Councilor from each Congressional District shall call a meeting of all members of the House of Delegates from his District for the purpose of having one elected to the Committee on Nominations. This meeting shall be held at least six weeks prior to the Annual Meeting of the Society, and the Executive Secretary notified of the results thereof at least five weeks prior to such Annual Meeting. In the event notice of election for any District is not received by the Executive Secretary within the required time, a member of The Medical Society of Virginia from that Congressional District shall be appointed by the Speaker of the House. The Executive Secretary shall notify all members of the Society, by publication in the Virginia Medical Monthly or by direct mail, of the names of the Committee on Nominations."

(The purpose of this amendment is to improve the procedure whereby the various elected officers of the Society are nominated. The amendment would make it possible for members of the Nominating Committee to come to the Annual Meeting better prepared to engage in the all important task of preparing a slate of nominees to be considered by the House.)

Amend Section 4 by changing the last sentence to read as follows:

"The Vice Speaker shall preside over the House of Delegates in the absence of the Speaker, or at the Speaker's request, and in either instance the Vice Speaker shall have all the rights and privileges of the Speaker."

(The purpose of this amendment is to grant the Vice Speaker the same privileges as the Speaker when it becomes necessary for him to conduct the affairs of the House.)

The Committee recognizes that Section 6, of Article IX of the By-Laws needs thorough revision. Under this section, the Committee on Ethics can act only on appeal from a component society in considering matters involv-

ing ethics and conduct of a member, or it may act independently in the case of a member not belonging to a component society. To have more effective discipline, the Judicial Committee believes that the Ethics Committee should have original jurisdiction without being requested to act by a component society receiving charges in writing as outlined in Section 6. It may be appropriate to recommend this change and others in the procedure of trying to discipline a member, but the fact remains that the only real penalty the Society can invoke is revocation of membership which is important to most of us but may not be important to someone bent on the continuation of violation of our Ethical code.

Because of the extensive revision in the Virginia State Code regarding medical practice which gives the State Board of Medical Examiners much more authority in disciplinary measures the Committee recommends that the President create a special committee with representatives from the State Board of Medical Examiners, the Committee on Ethics, preferably the Chairman, and the Society's legal counsel to investigate the possibility of a formal method of liaison and communication between the Committee on Ethics and the State Board of Medical Examiners whereby actions of the Board may be reflected by appropriate action by the Committee on Ethics.

The new legislation gives the State Board of Medical Examiners the right to censure or reprimand, place a physician on probation, or revoke his license. An example of liaison between the Board of Medical Examiners and the Committee on Ethics would be that on revocation of license by the Board of Medical Examiners, the physician be expelled from the State Society by recommendation of the Committee on Ethics without the need of a vote of the House of Delegates. In the case of reprimand or probation, the Committee on Ethics, depending upon how the By-Law is spelled out, would act accordingly. It could be possible that information reaching the Committee on Ethics through the membership of the Society about a member who might be in violation of our ethical code would be forwarded to the Board of Medical Examiners for their investigation and action. The new legislation spells out in detail what constitutes unprofessional conduct, moral turpitude and other acts contrary to accepted medical practice as set forth in the Code.

It seems apparent to the Judicial Committee that this entire subject needs discussion and exploration with a report and recommendations forwarded to the President of the Society before the Judicial Committee should undertake a major revision of the By-Laws regarding ethics and discipline of members.

On request the Committee could find nothing in the Constitution or By-Laws to prevent a telephone poll of Council being considered official business of the Society as long as Section III of Part B, Article VII of the By-Laws is fulfilled which states that "The Executive Secretary-Treasurer shall keep minutes of all meetings of the Council and House of Delegates in separate files and make a report to the House of Delegates at each annual session". The Committee believes that if the record of the vote is kept and a report of the subject material made as it is done with all Council meetings that polling Council members is an acceptable method of transacting Society business when the poll of Council is deemed appropriate by the President of the Society.

On request from the Speaker of the House of Delegates, the Judicial Committee directed its attention to the situation where a Delegate resides in a county in one Congressional District and belongs to a component society in another Congressional District. A good example are delegates living and practicing in Campbell County in the Fifth District representing the Lynchburg Academy of Medicine situated in the Sixth District. The legal counsel of the Society has pointed out that according to Articles I and V of the By-Laws—"that delegates to the House of Delegates attend, act and vote as representatives of the component societies which elect them", and Article III says that a "component society shall be deemed to be in the jurisdiction of the Council or of the Congressional District in which the majority of its membership have the major portion of their practice". The next sentence in Article III, Section 2 puts a member in the Congressional District of the component society to which he belongs even if he lives in or has a major portion of his practice in another Congressional District.

With this and other investigations in mind the Judicial Committee rules that all Delegates will caucus according to the Congressional District in which their component society is located. Those Delegates not representing a component society will caucus with the Congressional District in which the major portion of their practice is located.

Richard Fisher, M.D.
Charles W. Whitmore, M.D.
John A. Martin, M.D., *Chairman*

Blue Shield Directors

This committee has met quarterly along with other members of the Board of the Virginia Medical Service Association. On July 15, a special meeting of this committee was held in Williamsburg and a thorough discussion held concerning certain problems which had arisen pertaining to Blue Cross-Blue Shield "Supplement to Medicare" program for Old Age Assistance Recipients. As a result of this meeting, the Blue Shield Board directed that a letter of clarification be sent, and this will have reached Virginia physicians before this report is published.

With Medicare a reality, it is apparent that close liaison between the Blue Shield Plans and The Medical Society of Virginia is more necessary now than ever. Your committee will endeavor to maintain this liaison with the Virginia Medical Service Association.

Walter P. Adams, M.D.
Frank N. Buck, Jr., M.D.
Russell Buxton, M.D.
Matthew L. Lacey, II, M.D.
W. D. Liddle, Jr., M.D.
L. F. Moss, M.D.
W. Callier Salley, M.D.
John R. Saunders, M.D.
L. Benjamin Sheppard, M.D.
Julian H. Yeatman, M.D.
Fletcher J. Wright, Jr., M.D., *Chairman*

Insurance

Looking back over the past year, your Committee can only conjecture that the uncertainty of the times has been reflected in group insurance programs. We believe the following report will show what we mean.

The Committee met in June with representatives of the St. Paul Companies and reviewed thoroughly the Society's Professional Liability Program. It is with regret that we must report a sizable build-up in the number of claims instituted against the plan. The loss ratio, over the past three years, has actually exceeded permissible limits and the carrier has reluctantly been forced to ask the Committee to approve premium increases in two of the four classifications. The Classes concerned are those involving surgeons and certain other specialists, and are referred to as Classes 3 and 4. The premium rates for Classes 1 and 2 remain unchanged.

Your Committee wishes to point out that, despite the moderate premium increase in the two classifications, your Society's program remains the very best available anywhere.

Several members have expressed interest in a deductible type professional liability policy. Such coverage would supplement the basic program already in effect and would permit St. Paul to cover any eventuality and any limit. The thought has been expressed that the premium structure of such a plan would be sufficiently low to attract just about all physicians. Such coverage is now available under what is known as the St. Paul "Top Brass" Plan. Full details can be obtained from either the state office or your St. Paul agent.

Your Committee is particularly pleased to report that, under the Society's Professional Liability Program physicians serving on hospital utilization review committees are fully protected against suits stemming from such service.

It is with great regret that we must report the termination of the Society's Savings and Retirement Program—underwritten by Minnesota Mutual. The response had been most disappointing and the company had no alternative but to refund to the participants all money (plus interest) invested.

Your Committee refuses to be dismayed, however, and a study is being conducted of other forms of retirement programs. It is hoped that a plan attractive to the majority of the membership can be found. We shall most certainly keep you informed.

A change in carriers was made for the Society's Accidental Death and Dismemberment Program—a change which resulted in more available coverage. The program is being underwritten by American Home Assurance Company, and the premium rate structure remains basically the same.

Our basic Sickness and Accident Program, underwritten by the Commercial Insurance Company of the Continental Group now has 40.3% of the membership enrolled. Since 1960, it has paid $972,000 in benefits—something to think about. It is the Committee's hope that every member of The Medical Society of Virginia will give this program careful consideration during the coming year.

Our Major Hospital Plan is doing very well—approximately 1,200 members being enrolled at the present time. It seems likely that the implementation of Medicare will make some changes in the contract necessary. For example, an indemnity program will be made available to those contract holders reaching the age of 65.

The Professional Overhead Expense Program is also doing well, and no changes are anticipated.

Several years ago, The Medical Society of Virginia decided to sponsor a supplemental sickness and accident program in order to make additional coverage available to those members who might desire it. The program is making satisfactory progress—with 600 members now participating. Its future looks very bright.

While this report is necessarily brief, your Committee invites the membership to contact the state office for such additional information as might be desired. We also welcome all thoughts and suggestions, and pledge our continuing efforts to bring you the finest, strongest insurance programs available anywhere.

ANDREW F. GIESEN, M.D., *Chairman*

Venereal Disease Control

Your Committee on Venereal Disease Control was appointed in December of 1965 following a resurgence in incidence of the venereal diseases nationally. Many localities in Virginia have experienced a sharp increase in the known number of syphilitic and gonorrheal cases. The initial step of your Committee then was to inform by open letter the secretaries of the component medical societies, and hopefully their membership, of these statistical increases. It is anticipated that this awareness will stimulate all physicians to be cautious in evaluating patients who could have contracted these diseases. It was further emphasized that the evaluation of all contacts of known cases is a must, and that reporting of such cases to the Department of Health is by law obligatory.

Your Committee held its first formal meeting on March 3, 1966. Early detection of the venereal diseases was stressed as the initial step in their control. Adequate tracing of all exposed persons, however, is the common denominator in breaking the chain of disease that has led to many local epidemics. The Committee therefore exhorts the practicing physician to report his cases to the State Department of Health, and to emphasize to the patient that the investigator will respect the patient's privacy and maintain delicacy in their case finding techniques. The V. D. investigator is experienced in epidemiologic technique and has the facilities and time to accomplish it properly that the average physician does not have. Your Committee has been assured that for physicians caring for venereal disease cases continued and dedicated support is available from the State Department of Health and its V. D. investigators.

Your Committee has gone on record as favoring continued use of the serologic tests for syphilis as a requirement for marriage licenses and as an obligatory part of the initial prenatal care of expectant mothers, or as part of their immediate postpartum care if prenatal care was not present. Widespread use of the serologic tests in routine hospital and office practice is recommended.

Your Committee favors venereal disease education of

preadults as well as adults with emphasis on the nature of the venereal diseases, their recognition, mode of spread and morbidity if untreated. It must be remembered that a high percentage of the venereal disease problem is occurring in the preadult age group.

ROBERT F. SELDON, JR., M.D., *Chairman*
W. R. SOUTHWARD, JR., M.D.
WILLIAM H. KAUFMAN, M.D.
GILES Q. GILMER, M.D.

Alcoholism

The joys of alcohol have been recited and sung for many generations. The mythological gods on Olympus supposedly sipped nectar to enhance enjoyment of celestial life. Alcohol was the active ingredient of all love potions. The product of the grape, namely, champagne or other wine, has traditionally been used to toast the bride and groom. We drink a toast at anniversaries and birthdays to symbolize good health, and to emphasize our wish for great happiness during the remainder of a long and useful life.

The virtues of "strong drink" have been memorialized in ballards and sonnets, song and recitation. Brandy to the French is "eau de vie". Wine to the Italian is "L'elisir d'amore", the elixir of love. Sir Wm. Osler stated that wine is the milk of old age, although he did not stress its use prematurely. Most of us employ alcohol as a social lubricant and a conversational catalyst. It is widely regarded as a status symbol, the *sine qua non* for climbing the social ladder.

Tennyson, in "The Miller's Daughter", speaks appreciatively of "after dinner talk across the walnuts and the wine". He also, in "Locksley Hall", compares water to wine "as moonlight unto sunlight". Many poets have attempted to express the epitome of enjoyment of a kiss by likening it to sweet wine upon the lips.

Wine with meals, which to those in grape-growing countries or sections of this country such as the Napa Valley of California, adds greatly to the enjoyment of the meal and aids digestion mainly by helping induce a mood of relaxation.

Alcohol may therefore be regarded as a product placed here by God for the enjoyment of man. It is only the abuse of alcohol that we decry.

Alcohol has been recognized as a tranquilizer for years. Byron, in Don Juan, states: "There's nought, no doubt, so much the spirit calms, as rum and true religion."

Dickens, who used it all too freely, referred to it in Nickolas Nickelby as "bottled lightening". (It can be "distilled damnation.")

It has also been regarded as an escape from the reality of life. Macbeth, while he, himself, is resorting to wine to soothe his troubled breast from his feelings of guilt due to his having murdered his king, exhorts the doctor to make Lady Macbeth oblivious of her hallucinations that keep her from resting:

> "Canst thou not minister to a mind diseas'd,
> Pluck from the memory a rooted sorrow
> Raze out the written troubles of the brain
> And with some sweet oblivious antidote
> Cleanse the stuff'd bosom of that perilous stuff
> Which weighs upon the heart?"

We thus realize how deeply ingrained is the use of alcohol in our culture and civilizations. Our customs are steeped in the bouquet and fragrance of the fruit of the grape and "spiritus ferumenti". Even beer is advertised as an aid to gracious living. This is seen and heard by millions, since many nationally televised sports are sponsored by beer interests.

We, therefore, realize that our approach to alcohol consumption and alcoholism must be realistic. This we term the multi-discipline approach. All physicians, some for personal reasons, must see alcoholism as a destructive force that can be our greatest social problem. Mental health, we say, is our greatest health problem. Alcoholism, making for broken homes, social irresponsibility, warping of thinking and judgment, poverty, less discriminatory behavior and, unless contained or controlled, negation of all responsibility, is our number one problem. Medicare has its best opportunity to do a realistic job in tackling alcoholism as a national public health problem. All agencies and ancillary services will be needed. State health departments, Alcohol Information Centers, Social Service Bureaus, Family Counseling Services, Mental Hygiene Clinics—all these, along with the help of physicians at local levels, are needed if we are to meet the need head-on instead of winking slyly while sipping our highballs—sometimes at too fast a rate to fall within the rhythm of true "social drinking" (i.e., fully controlled and in the company of others).

Physicians should lend their full-hearted support to Alcoholics Anonymous, Al-Anon, Al-Ateen and other organizations struggling so realistically for the rehabilitation of alcoholics.

Our own D.A.S.R. (Division Alcoholic Studies and Rehabilitation) has, up until now, been only a pilot study. Even the proposed 50-bed hospital for alcoholics will be woefully inadequate. The out-patient clinics, such as those in Norfolk, Roanoke, Richmond, Fairfax County, and other representative centers of population have, therefore, an unlimited challenge.

It is hoped that the attitude of the typical physician will be more compassionate, just as the attitude of the alcoholic must change if he or she is to achieve sobriety and serenity.

WILLIAM S. SLOAN, M.D., *Chairman*
JAMES ASA SHIELD, M.D.
EBBE C. HOFF, M.D.
WILLIAM F. GIBBS, M.D.

Child Health

Your Committee considered some extremely important matters during the year, and believes that every member of the Society should study the following minutes of the Committee's meeting on February 27. It is good to report that, subsequent to this meeting, the President of The Medical Society of Virginia appointed a special Committee on the Handicapped Child. Its make-up is in keeping with the recommendations of the Committee on Child Health.

A meeting of the Committee on Child Health was held

at the Williamsburg Convention Center on Sunday, February 27. Attending were: Dr. Warren C. Gregory, Chairman, Dr. Robert H. Anderson, Dr. Allan H. Jefferies, Dr. Robert M McDonald, Dr. Jefferson D. Beale, Jr., Dr. William D. Liddle, Jr. and Dr. W. Nash Thompson. Also attending were: Dr. William Thurman, Chairman, Department of Pediatrics, University of Virginia School of Medicine, Dr William Laupus, Chairman, Department of Pediatrics, Medical College of Virginia, and Edgar J. Fisher, Jr., Executive Director, Virginia Council on Health and Medical Care.

Dr. Gregory brought the Committee up to date on those matters of interest before the General Assembly, and it was learned that a bill calling for mandatory testing for P.K.U. had been amended to bring it more in line with the thinking of most physicians. As amended, the bill would place responsibility for testing on the parent rather than the physician or hospital. Brought out was the fact that the bill, if enacted into law, would certainly seem to require a thorough follow-up to be effective. It was mentioned that the rate of occurrence lies somewhere between 1 in 10,000 and 1 in 20,000.

The Committee then agreed with a suggestion that every hospital should have a fetus and newborn committee. Most hospitals have mortality committees at the present time.

Further discussion of the legislative scene brought out that a proposed Child Abuse Law seems certain to pass. Although several such bills had been introduced, the one drawn by Mr. John Duval, attorney for The Medical Society of Virginia, and introduced by Mr. Levin of Norfolk, appeared to be generally favored by members of the General Assembly. The Executive Secretary was requested to make copies of the bill available to members of the Committee, and also to the membership of the Society, if at all possible.

Dr. Gregory stated that it still seemed desirable to have the Committee meet with the Chairman of the Society's Committee on Maternal Health, and expressed the hope that this could be accomplished as soon as possible.

The Committee then turned its attention to a suggestion by Dr. Thurman that The Medical Society of Virginia become more interested and active in that area having to do with the needs of handicapped children. It was pointed out that while several groups are already active in this field, there does exist a need for more effective coordination. For example, it would be most helpful if a way could be found to better define just exactly what is needed in various sections of the State, and what kind of facilities and services are presently available. A central registry on patients and agencies seems badly needed.

A question was raised concerning a good definition of a handicapped child, and it was agreed that such a child possesses mental and physical abnormalities which exceed recognized levels.

The Committee learned that the Virginia Council on Health and Medical Care, with the cooperation and assistance of the Nemours Foundation, would present another Conference on the Handicapped Child in November. It was agreed that the Conference should have the Committee's endorsement, and that every component society should send a representative. The representative should come to the Conference with a list of those agencies and facilities operating in his area. A request was made that each society be provided information as to the type facility and service of interest to the Committee.

Dr. Gregory reported that he had attended the annual AMA Conference on School Health and found it very well organized and quite helpful.

Next to be considered were a number of recommendations proposed by the Chairman, and presented originally to the President of The Medical Society of Virginia. These recommendations had to do with makeup and functioning of the Committee on Child Health—with particular emphasis on subcommittee structure.

A need was cited for a Subcommittee on Health Education. It was stated that many teachers of health education are poorly prepared and that there exists a serious lack of really good material for teaching purposes. Such a subcommittee would consider aspects of hygiene, grooming, sex education, etc. The subcommittee should include members of the nursing profession involved in school health, and also pediatricians, general practitioners, experts on harmful substances, etc. The work being carried on by the Health Education Office of the Department of Health was mentioned.

Dr. Gregory stated that he had also recommended a subcommittee to deal with the medical aspects of sports. Since that time, however, he had learned that the Society's Public Relations Committee had become quite interested in this area of activity and was sponsoring annual conferences on the subject. These conferences are being sponsored in cooperation with the Virginia High School League, and are of particular interest to school and team physicians, coaches, trainers, etc.

Mention was made that there still exists a need for certain minimum standards over the State where physical examinations are concerned. It was reported that the Virginia High School League, in keeping with recommendations presented during the Conference on Athletic Injuries, is making a real effort to develop a more acceptable examination form for participation in school athletics

Another subcommittee discussed would be one concerned with school health administration. This subcommittee would consider all aspects of the well child, immunizations, control of infectious diseases, functions of the school nurse and policies governing administration of medications at school. It would also be concerned with development of standard examination forms, referral forms, physical examinations for teachers, etc. Such a subcommittee would ideally include school health administrators, radiologists, dermatologists, etc.

In discussing the need for a Subcommittee on the Handicapped Child, the Committee was advised that the Council of The Medical Society of Virginia had only recently directed the President to appoint a special committee to deal with the problem. It was the thinking of Council that this was a very specialized area of activity, and that it would be best to set up a committee separate and distinct from the Committee on Child Health.

It was the Committee's feeling that any such committee

should have as its chairmen Dr. Laupus and Dr. Thurman.

A need was also cited for a liaison committee which could work closely with the State Departments of Health and Education. Dr. Gregory proposed that such a committee be composed of subcommittee chairmen, representatives of our two medical schools, a representative of the Virginia Council on Health and Medical Care and the Chairman of the Child Health Committee. The importance of such a committee can be seen when one thinks of how much the government has already intervened in public education. Poorly qualified physicians might well be placed in the position of dictating school health policy.

It was agreed that the subcommittees recommended by Dr. Gregory were needed and a motion to this effect was seconded and adopted.

There followed some discussion as to who might make good subcommittee chairmen, and the names of Dr. Bernard Raymond and Dr. Marjorie Hughes were voiced.

There being no further business, the meeting was adjourned.

WARREN C. GREGORY, M.D., *Chairman*

Mental Health

The Committee on Mental Health met on February 8, 1966, and on June 30, 1966.

Dr. Hiram Davis, Commissioner of the Department of Mental Hygiene and Hospitals, was an invited guest of the Mental Health Committee's first meeting on February 8th. He informed the Committee concerning mental health planning in Virginia and discussed legislation under consideration by the legislature, then in session, that had to do with mental health programs in Virginia. Dr. Davis was informed that the Mental Health Committee strongly supported any program that would improve the care and treatment of the mentally ill in Virginia.

The Committee at its first meeting discussed two matters referred back to it by the House of Delegates of The Medical Society of Virginia during its meeting in October, 1965. The first had to do with Maryland laws dealing with juvenile delinquents. It was the decision of the Committee to delay further recommendation concerning this matter until the effectiveness of the Maryland laws could be verified. The second matter concerned privileged communications between psychiatrists and their patients. It was the opinion of the Committee that further study could be made of model statutes concerning privileged communications in other states and further recommendation be made by the Committee at a later date.

On April 30, 1966, a seminar entitled "Psychiatry for the General Practitioner" was held at Westbrook Psychiatric Hospital in Richmond. The seminar was sponsored by the Virginia Academy of General Practice, The Mental Health Committee of The Medical Society of Virginia, and The Neuropsychiatric Society of Virginia. The increase in attendance each year by the general practitioners seems to indicate their growing interest in psychiatric patients. The moderator was Dr. John R. Saunders, Medical Director of Westbrook. Dr. Paul A. Walters, Jr., Psychiatrist and Director of Training, University Health Services, Harvard University, spoke on the significance of neurotic symptoms in adolescent development, and Dr. Leo Madow, Professor and Chairman, Department of Psychiatry and Neurology, Woman's Medical College of Pennsylvania, spoke on neurological and psychiatric problems of ageing.

The Committee was pleased to learn that its request for a place on the program for a representative from the field of mental health during the annual meeting of The Medical Society of Virginia, to be held in Williamsburg, on November 7, 8, and 9, had been approved by the program committee. The Committee feels fortunate that Dr. Dana Farnsworth, Henry K. Oliver Professor of Hygiene and Director of University Health Services, Harvard University, has accepted our invitation to appear on the program on November 8. (The title of his paper has not been announced at this time.)

The Committee at its second meeting heard a report by Dr. W. D. Buxton, a member of the Committee and also Chairman of the Virginia Steering Committee of the American Medical Association, to the effect that the Second State Mental Health Congress would be held in Richmond, Virginia, in April 1967. The Committee voted unanimously to recommend to the Medical Society that it endorse the Congress and urge the membership to attend.

The Chairman of the Mental Health Committee attended the Twelfth Annual Conference of State Mental Health Representatives held in Chicago on March 18 and 19, 1966. Part of the program was devoted to a report by those in attendance of progress being made in the development of each state's Community Mental Health Centers program. Medicare came in for its share of discussion. The future of A.M.A. Mental Health Congresses was also a topic of discussion. During the regional discussions, several regions voted to hold regional American Medical Association Mental Health Congresses spaced over a three or four-year period.

After hearing the Chairman's report concerning proposed regional A.M.A. Mental Health Congresses, the Committee voted unanimously to endorse a regional congress to be held some place in Virginia in 1968 and instructed the Chairman to contact proper representatives from the states composing region three, informing them of our decision and suggesting an early meeting for planning if they are in favor of such a Congress.

C. A. Wharton, Jr., who appeared before the Committee last year as Coordinator, Virginia Mental Health Study Commission, was invited to return to discuss the progress made on the Commission's recommendations and the Departmental legislative program and appropriations which were acted upon by the 1966 General Assembly. His general discussion centered on the following items.

1. The Department of Mental Hygiene and Hospitals has established a Division of Planning to assist in the implementation of the recommendations of the Planning Commission.
2. Plans for Mental Health Centers and Mental Retardation Facilities which had been submitted by the Department of Health and approved by the State Construction Authority.
3. Budget items approved by the General Assembly

included significant funds for the maintenance and operation of state hospitals and for the operation of mental hygiene clinics and the expansion and improvement of the Departmental after-care program.

4. The General Assembly providing the authority and funds for review and recodification of the statutes dealing with mental illness. There was considerable discussion of this item by the Committee. The discussion concerned the fear of the Committee that recodification would be entirely in the hands of the legal profession.
5. Programs of other departments, including Education and Vocational Rehabilitation, which will have a bearing upon the improvement of mental health in Virginia.

Also discussed with Mr. Wharton by the Committee was its concern about the lack of attention given to research into various aspects of mental illness in Virginia.

The Chairman wishes to express to the remainder of this Committee and to Mr. Robert I. Howard, Executive Secretary of The Medical Society of Virginia, his appreciation for their cooperation and assistance in the formulation of this report.

John R. Saunders, M.D., *Chairman*
W. D. Buxton, M.D.
Robert C. Longan, Jr., M.D.
Joseph R. Blalock, M.D.
Emory F. Hodges, Jr., M.D.
Samuel S. Morrison, M.D.
R. Terrell Wingfield, M.D.
Ira L. Hancock, Jr., M.D.
Robert B. Neu, M.D.
Robert H. Thrasher, M.D.
Frank Strickler, M.D.

Medicare

The Medicare Committee met three times during the past year and wishes to submit the following report.

At the direction of the President of the Society, Dr. Alexander McCausland, the Committee was enlarged to include a representative from each of the Congressional Districts.

The Medicare Committee endorsed the Life Insurance Company of Virginia as the financial carrier for Part B of Medicare and named the Aetna Life and Casualty Company as the second choice. The Life Insurance Company of Virginia was appointed by the Bureau of Health, Education, and Welfare as the financial carrier for Medicare but after consideration, the Life Insurance Company of Virginia withdrew. The Department of Health, Education and Welfare then appointed Travelers Insurance Company as financial intermediary. Mr. Robert Black is the representative for the Travelers Insurance Company and his address is: Seaboard Building, 3610 W. Broad Street, Richmond, Virginia. Mr. Black assured the Committee that he and his company would be anxious to work with all doctors and that any member of the State Society should not hesitate to call upon him at any time. At the present time, the Travelers Insurance Company expects to have representatives in Tidewater, Richmond, Roanoke and Harrisonburg and from these centers, there will be representatives that will go out into the surrounding areas for the benefit of patients as well as for doctors.

All members of the Medicare Committee consented to be responsible for any medical meetings so that information concerning Medicare can be explained to the physicians. It was felt that each individual member of the Committee could best take care of his own district from this standpoint.

It was the feeling of the Committee that each physician should use his own discretion as to how he bills patients for Medicare, but that all physicians should be aware of the fact that the financial intermediary will pay the customary and usual fee but that their payments will be supervised by the Social Security Agency or by the Department of Health, Education and Welfare.

The Committee also feels that each physician should be aware of the fact that in most cases it will be unwise to accept an assignment of the bill.

The Committee appreciates the help of Mr. Robert Howard and Mr. Robert Black and also the constant good advice and supervision of our president, Dr. Alexander McCausland.

Russell Buxton, M.D., *Chairman*
William Grossman, M.D., *Vice-Chairman*
John H. Vansant, M.D.
Dan Talley, III, M.D.
Ralph Landes, M.D.
John Martin, M.D.
John Glick, M.D.
James Hutt, M.D.
Douglas Divers, M.D.
Preston Titus, M.D.

Traffic Safety

The highway safety achievement record of the past session of the General Assembly was not impressive; in fact the problem was not tackled in any significant way. A Virginia Traffic Safety Commission was created; doubtless another study group of this kind will guide the next General Assembly toward some effective safety controls. However, the legislators diluted the reckless driving statute to a degree that the enforcement of this basic offense will be impaired. Unfortunately also the bill proposed by the Committee on Visual Standards for Motor Vehicle Drivers was passed over in committee. This bill is fundamental and should be vigorously supported by the medical profession when it is reintroduced in 1968.

In the meetings of the Study Commission during the coming year, the testimony and influence of physicians is urgently needed. To give advice, however, the physician should be well acquainted with the medical aspects of highway safety. To all doctors planning to appear before the commission, your committee recommends a close study of Dr. Fletcher Woodward's Seven Medical Proposals for the Prevention of Injury and Death on the Highway, in the May issue of the Southern Medical Journal.

There is need in Virginia to broaden the medical leadership in highway safety. Only a few county societies have a highway safety committee, and few physicians are familiar with the ramifications of the traffic safety problem. At the suggestion of a member of the Society a

resolution will be offered to the House of Delegates urging each component society to organize a highway safety committee and to urge all members of The Medical Society of Virginia to exert leadership in highway safety at the local level.

Influenced by President Johnson and stimulated by congressional investigation, Congress is moving toward some positive action in automobile safety. The emphasis on automobile design in preventing death and injury on the highway is essential, but more attention should be paid to the other significant facets in highway safety. Of the three factors contributing to automobile accidents, the driver, the road and the car, the driver is by far the most important and the medical aspects of his actions are the responsibility of the physician.

The failure to decrease the ever mounting death toll is due in part to public apathy, enforcement leniency, faulty automobile design, the ineffective educational methods, inability to control the speeder and the drunken driver and other factors well known to those interested in highway safety.

For future progress there is a need to reorient our thinking and realize that the world-wide worship of the automobile (the automobile can do no wrong to me) has sabotaged our current efforts to prevent death and injury on the highway. When the policeman, the judge, the legislator and the physician changes his individual concept toward automobile safety in favor of the welfare of society as a whole, then we can expect an improvement in our number one public health problem.

Francis H. McGovern, M.D., *Chairman*
DuPont Guerry, III, M.D.
Louis P. Ripley, M.D.
Robert P. Irons, M.D.
R. D. Butterworth, M.D.
William H. Pifer, M.D.
J. Treacy O'Hanlan, M.D.

Liaison to Nurse Examiners

I wish herewith to present the annual report of the Committee for Liaison with the State Board of Nurse Examiners and Organized Nursing.

Our liaison in June, 1966, brought out the following:

1. Professional nursing certificates renewed in 1965 were 16,460, a 6% increase over 1964 and of this number, 588 more practiced in Virginia.
2. Professional nurses employed in Virginia during 1965 were 12,276, an increase of 930 over 1964. It is felt that the increase is related to the current military situation which has resulted in many service families coming to Virginia.
3. On the other hand, the number of professional nurses registered by examination in 1965 was 679, a reduction of 58 from 1964.
4. A total of 81.5% of nurses licensed by examination in 1965 practiced in the State after registration.
5. There are now 28 professional nurse training programs in Virginia with a total of 2,439 students enrolled as compared with 2,323 in 1964.
6. Practical nurse certificates renewed in 1965 were 5,284, an increase of about 400 from 1964.
7. There are 32 approved schools of practical nursing in Virginia with 1,033 students in 1965, an increase of 188 over 1964.
8. There has been a marked improvement in the performance on state board examinations on the part of diploma graduates, which is thought to result from utilization of an educational director by the Board of Nurse Examiners.
9. The greatest difficulty nursing schools have is the lack of qualified faculty personnel; it is also the observation of this committee that generally poor attainment by Virginia students in our public school system makes nursing education a very difficult matter in our State.

Your committee has unanimously approved statements of guidelines for the delegation of certain functions to registered professional nurses with reference to obstetrical anesthesia, blood transfusions, intravenous medications, suturing and removal of same, cardio-pulmonary resuscitation, and rectal and vaginal examinations on obstetrical patients, as set forth by the State Board of Nurse Examiners in a communication to the Virginia Nurses' Association dated 6-19-66. Accordingly, we suggest that these proposals be circulated to the members of the Council of The Medical Society of Virginia for their approval and subsequently published in our journal so that our entire membership may be aware of them and hopefully, approve them.

Finally, your committee salutes the outstanding qualities of Virginia nurse executives with whom it confers and particularly, Miss Mabel E. Montgomery, R.N., Secretary of the State Board of Nurse Examiners, for faithfulness and diligence in their efforts to produce more and better nurses for Virginia and to provide for better nursing. Virginia is indeed fortunate to have such fine public servants.

John R. Mapp, M.D., *Chairman*
John P. Lynch, M.D.
James M. Moses, M.D.
Bradford S. Bennett, M.D.
Daniel N. Mohler, M.D.

Walter Reed

The Walter Reed Birthplace continues to be maintained in good condition with the assistance of the Walter Reed Community Improvement League.

Expenses for care of the grounds and minor repairs for 1965-66 have amounted to:

The large walnut tree that partially overhangs the house has several dead limbs and is decaying in the center. The lowest of three bids for trimming and treating the tree was $275.00. Your committee has decided to have this work done soon.

We have had some preliminary discussions with Garden Club groups concerning a beautification plan for the lawn of the property.

T. E. Smith, M. D.
Sterling N. Ransone, M.D.
Raymond S. Brown, M.D., *Chairman*

National Emergency Medical Service

We have again been fortunate in that we have had no emergencies or disasters requiring action by your com-

mittee during the past year. In September 1965 several members of the committee were called upon to participate in the writing of a State Office of Emergency Planning Plan for State Management of Health Resources in event of an all out enemy attack upon this country. The State Department of Health has been assigned the responsibility of implementing this plan, determining the available health resources, to what needs they can be applied, how they are to be used, and the extent to which resources are deficient or in excess of minimal survival needs. Health resources include drugs, medical, surgical, dental and veterinary supplies, hospitals and laboratories, manpower, and such supporting supplies as gasoline, fuel oils, solid fuel, electricity and construction materials.

In the past year disaster nursing plans have been taught to 75 student nurses; Health Mobilization to 139 graduate nurses, sanitarians, and others; Health Mobilization to 140 dental students; Health Mobilization and Medical Self-Help to 70 veterinarians. 182 hospital pharmacists, and to 100 civic club members.

There are presently 45 packaged disaster hospitals in Virginia and two demonstrations of the hospital have been given—one at Covington and the other at Petersburg. Four hundred people visited the Petersburg demonstration, including physicians, nurses, pharmacists, rescue squads and lay visitors, while 516 attended the demonstration in Covington. More such demonstrations are contemplated for the near future.

The Medical Self-Help Training Program has completed 1,400 classes with 27,990 persons being trained. This program is expanding each month and more and more schools are including it in their curriculum.

Training of personnel continues and refresher courses are frequently given nurses and sanitarians.

W. R. Southward, Jr., M.D., *Chairman*
Charles R. Riley, M.D.
E. Cato Drash, M.D.
Meyer I. Krischer, M.D.
D. Coleman Booker, M.D.
David J. Cracovaner, M.D.
William F. Weller, M.D.
Louis A. Houff, M.D.

Cancer

The Cancer Committee wishes to submit the following report of its activities during the past year.

The Cancer Committee has been active along with the Cancer Coordinating Committee of the State of Virginia in attempting to survey the facilities for tumor diagnosis and tumor therapy throughout the State of Virginia. We would like to evaluate the current status of our Tumor Clinics at the present time. The State Department of Health is currently beginning studies of this nature and it is hoped that by working with these investigators and establishing certain criteria to be used in the study, such a joint survey would be of benefit to physicians throughout the State.

The Cancer Committee wishes to make a motion that The Medical Society of Virginia go on record as encouraging employers that require annual physical examinations and pre-employment physical examinations, make available those funds necessary so that routine cancer detection studies could be included as a part of this examination. All females examined in such a way would be expected to have a pap smear done if they so desired. All patients over 50 years of age should be urged to undergo routine sigmoidoscopic examination and certainly all patients should have an annual chest x-ray. In reviewing statistics from the Tumor Clinics, we so often find that patients appear with advanced cancer whose last contact with a physician was either a pre-employment physical examination or an annual physical examination and if such studies had been done an earlier diagnosis could have been made.

The Cancer Committee regrets that Dr. John Adams of Clifton Forge, resigned his position with the Committee and has left the State to practice. Dr. Adams has been a member of the Cancer Committee for a number of years and has been one of the most faithful, dependable and interested members of this Society. His experience and judgment will be greatly missed by all of his contemporaries.

Claiborne W. Fitchett, M.D., *Chairman*

Advisory to Woman's Auxiliary

While this committee has not had a formal meeting we have had correspondence and telephone consultations relative to the work of the Woman's Auxiliary to The Medical Society of Virginia.

It has been a pleasure working with Mrs. Virginia Kelly, President of the Woman's Auxiliary and have counsel with her on several of her important projects.

The Woman's Auxiliary is a thriving organization and is the backbone behind the medical profession in Virginia. We commend them for their good work and splendid support.

W. N. Thompson, M.D., *Chairman*
W. W. Walton, M.D.
Fredric Delp, M.D.

Advisory to the State Department of Welfare

The Advisory Committee to the State Department of Welfare and Institutions met on June 5, 1966, at the Society Headquarters' building.

Attending the meeting were Drs. Shanholtz, Tucker, Wolf, Bates, Felton, and Hundley. Dr. Kenley, of the State Health Department, attended at the request of the chairman.

Others attending were Mr. Painter, Mr. Bruner, Mr. Baker, Mr. Hendricks, and Miss Armstrong of the State Department of Welfare. Mr. Howard, society secretary, also attended.

Subjects under discussion related to the impending inauguration of Medicare and the implementation of Medicare services and facilities to Welfare recipients over age 65.

It was emphasized that the Medicare program is the most far-reaching since the beginning of the Social Security system, and that the problems to be ironed out will require patience and cooperation from both the providers and recipients of the services.

The only positive action was to approve efforts of the State Board of Welfare to utilize Medical Assistance

to the Aged funds to amplify and extend benefits under Medicare to those eligible for M.A.A. under the present law and regulations.

JOHN T. T. HUNDLEY, M.D., *Chairman*

Liaison to UMW Welfare Fund

Your Committee on Liaison to confer with the United Mines Workers Welfare Fund has been inactive for another year. We hope to keep it that way. To date there have been no reports or complaints from members of the Society and nothing from the Welfare Fund which would warrant calling a meeting of the Committee.

Your Chairman has had several personal meetings with Dr. Allen Koplin of the Welfare Fund and I have also corresponded with him several times. Our relationships are quite cordial and all problems have been of a minor nature which have been settled satisfactorily between the two of us.

When Medicare becomes effective, July 1, the Welfare Fund plans to take over for their people who are 65 or older at the point where Medicare stops. They plan to pay the initial cost of both hospitalization and professional services for their people and then to take care of any portion of the medical care of their people which is not covered under the Medicare Program.

JAMES M. PEERY, M.D., *Chairman*

Dependent's Medical Care

Three meetings were held by your Committee during the past twelve months. Some fifty cases were reviewed —a definite increase over last year.

Despite the new name, most everyone will recognize this Committee as having carried the original "MEDICARE" label for many years. Now, however, another "MEDICARE" has unfortunately come into the picture, and that will explain the new title "Committee on Dependents' Medical Care".

Your Committee has offered two recommendations to Council for consideration. The first would have The Medical Society of Virginia endorse the proposed expansion of services under the Dependents' Medical Care Program. That endorsement would, however, carry with it a provision that negotiations on a new fee schedule be conducted as soon as possible.

The second recommendation is that the Society request that physicians be paid on a "usual and customary" fee basis. This would seem to be a practical solution to the fee schedule problem.

In the meantime, your Committee hopes very much that all physicians will charge their usual fees. This is the one sure way to eliminate the processing delays which result from Committee review.

W. LINWOOD BALL, M.D., *Chairman*

Medicine and Religion

The newly created Department of Medicine and Religion of the American Medical Association has made great progress over the country, and its efforts have been well received not only by the medical profession and the clergy but also by the general public. Mutual understanding and discussion between physicians and the clergy can be very productive and rewarding.

The Committee has held two meetings during the past year, directing its efforts toward further expanding its program throughout the State of Virginia. This has been done in a number of ways with the cooperation of the staff of the AMA, Department of Medicine and Religion. Dr. Paul McCleave addressed the House of Delegates in October and following this met with a group of Richmond clergy along with this Committee. An effort has been made to form local Committees in Staunton, Winchester, Newport News, Bristol, Danville, and Arlington. Meetings between the local Medical Society and the clergy have been held in Norfolk, Roanoke, Alexandria, and Richmond. Dr. McCleave also appeared before the annual meeting of the Virginia Academy of General Practice in May, 1966, and Mr. Arne Larson has spoken to the Medical College of Virginia students.

It is hoped that further progress can be made rapidly in establishing Committees on Medicine and Religion in each component society, and that these Committees can provide opportunities for members of the clergy and physicians to sit down and discuss mutual problems of patient care. The rapidly changing problems of medicine, including organ transplants, therapeutic abortions, mental and emotional illnesses, drug addiction, alcoholism, and care of the terminally ill, require this type of cooperation. This Committee on a state level can only try to stimulate interest and provide help in organization on a local level, where the real work must be accomplished.

CHARLES R. RILEY, M.D.
PHILIP AUSTIN, M.D.
HARRY M. FRIEDEN, M.D.
JOHN W. DAVIS, JR., M.D.
JOHN C. CRAWFORD, M.D.
ROBERT S. HUTCHESON, JR., M.D. *Chairman*

Medical and Allied Organizations

It has not been necessary for this committee to meet the past year.

We have continued our work with the Health Careers Committee of the Virginia Council on Health and Medical Care. This committee presents a slide talk on 19 different health careers. This past year this program was presented to 127 schools, consisting of 43,000 students. Requests for additional information have been received from 2,287 students, 185 of whom requested more data on medicine as a career.

The Medical Society of Virginia purchased 1,000 copies of the booklet entitled "Horizons Unlimited", to be used by the Health Careers Committee in answering requests from interested students.

We shall continue to work actively with this organization.

WILLIAM T. CLARKE, M.D.
LESLIE A. FAUDREE, M.D.
ROBERT J. FAULCONER, M.D.
WILLIAM B. BROWN, M.D.
W. GRAHAM STEPHENS, M.D.
J. SHELTON HORSLEY, III, M.D., *Chairman*

Medical Education

A meeting of the Committee on Medical Education was held at Society Headquarters on Thursday, June 2, 1966. Attending were Dr. John C. Watson, Chairman, Dr. W. J. Hagood, Dr. Malcolm H. Harris, Dr. Kinloch Nelson, Dr. Thomas R. Jarvis, Jr., Dr. Robert J. Faulconer, and Dr. Charles Caravati.

The Committee was informed that Dr. McCausland had appointed a Special Committee to consider the Heart, Cancer, Stroke Program, and that the Society also had a Committee on Continuing Education. This meant that the Committee on Medical Education would be primarily concerned with developing the closest possible working relationship between physicians and our two medical schools.

The Chairman presented a brief report on a Special Conference for Committee Chairmen sponsored by AMA in Chicago. He stated that the discussions, for the most part, dwelled on socio-economic matters. Out of the Conference came the thought that our medical schools might well be "over refining the product"—perhaps accounting for the fact that few physicians are settling in our rural and semi-rural areas. Also brought out was the fact that we are not making adequate use of ancillary personnel.

The Heart, Cancer, Stroke Program was discussed at length, and the Committee learned that fear was being expressed over the country that the profession was in danger of being bypassed.

Dr. Nelson, a member of the Governor's Advisory Committee on Heart, Cancer, Stroke, brought the Committee up to date as far as the Program in Virginia was concerned. He explained how the Governor's Advisory Committee had come to be appointed, and pointed out that The Medical Society of Virginia was represented. The Committee's biggest problem at the moment is to obtain an Executive Director—a must if the Program is really to move in a positive manner.

Dr. Nelson explained that the Program is expected to be conducted on a regional basis and might possibly tie in with the affiliated Hospital Program which our medical schools have maintained for some twenty years.

It was learned that The Society's own Committee had met with the Governor's Advisory Committee for a special briefing on the Program. It was discovered at that time that many physicians are quite confused about the Program—its purpose, objectives, etc. Dr. Nelson stated that the Program in Virginia was currently in the feasibility study stage and has funds for that purpose approximately $50,000.

Dr. Hagood, who serves on both the Governor's Advisory Committee and the special committee of The Medical Society of Virginia, stressed the fact that considerable confusion exists over the State concerning what the Heart, Cancer, Stroke Program is all about.

Also brought out was the fact that the Heart, Cancer, Stroke Law, in its final form, differed greatly from the original DeBakey Report. That report had been generally unacceptable to medicine. The changes made by Congress had eliminated many of the areas of disagreement.

The thought was expressed that the entire Program is complicated by a definite physician shortage which exists in certain areas of the country. This led to the statement that postgraduate education programs had made great strides over the country in the last few years, and that the Heart, Cancer, Stroke Program should most certainly take this fact into consideration when planning projects.

It was agreed that physicians in the State need to be educated about the Program, and that this in itself might help locate a qualified director. In this connection, it was stated that many physicians are undoubtedly kept from applying because of the feeling that the Program might not be permanent. In all probability, however, the Program will continue to grow as the years go by.

The Committee gave a great amount of consideration to its functions and responsibilities—taking into consideration the fact that a special committee on Continuing Education now existed. It was pointed out that the Committee had performed a real service in the past by helping resolve problems brought to it by both medical schools and Board of Medical Examiners. It was with the Committee's help that the present system of Board Examinations was implemented.

It was agreed that one of the Committee's greatest contributions was that of bringing about a better relaionship between our medical schools and physicians over the State. It was also on the recommendation of the Committee that scholarship funds were made available by The Society to both schools.

From time to time, requests are received from the Virginia Hospital Association to cooperate in accreditation "dry runs" at various hospitals. When these requests are received, the Committee Chairman has provided a member of the "dry run" team. This has raised a question as to whether this is really a proper function of the Committee on Medical Education.

After much thought and consideration, it is the Committee's opinion that it should continue to cooperate in so-called accreditation "dry runs", and that every effort be made to obtain qualified physicians to do the surveys. The Secretary was requested to obtain copies of the regular accreditation survey forms for use by the physicians concerning the role of the Committee in this particular project.

This could well be a period of transition for the Committee on Medical Education. There is little doubt that the Committee, like all other segments of medicine, will have to adjust to new problems and projects brought about by new laws and programs. We will continue to serve you to the best of our ability.

JOHN C. WATSON, M.D., *Chairman*

Liaison To State Bar

The Committee would like to briefly review its activities during the past year and, in so doing, refresh your memories in regard to the objectives which brought it into being.

The need for a medium through which better understanding could be obtained between the professions of Medicine and Law was apparent. This remains a worthwhile and an important founction of the Committee. The Bar Committee has been of tremendous assistance in formulating principles for the management of a medical witness. As these principles are being better circulated

and understood, the service to our physicians who might serve as expert witnesses, is tremendously valuable. These principles cover some of the problems incident to fees and have been of help to several of our members in collection of such fees.

Increasingly, work of this Committee has centered around its interest in the screening of mal-practice cases against Virginia physicians. This procedure has been covered in a special agreement, which has been adopted by both groups, and which has recently been brought up-to-date by the inclusion of several changes that have been made during the past two years.

The problem of mal-practice was thoroughly studied before the establishment of the Panel agreement. While Virginia had not been one of the areas plagued by mal-practice action, it was agreed by the best informed sources that we could anticipate a change in that existing climate. This has been true throughout the country and has also been true in our State. One of the primary purposes of the Screening Panel is to prevent mal-practice action. It was our feeling that the existence of such a Panel would do much to contradict the argument often expressed among lawyers and laymen—that medicine was a "closed shop" and it was impossible to obtain a reasonable hearing against any physician inasmuch as no physician would testify against his colleague. The Panel provides a means whereby those plaintiffs, who would have grounds for action, can be supplied with an expert who will testify to the fact. This, in itself, has done much to improve the relations between the two professions. It is also felt that this offers an excellent public relations medium in that the public can be assured that the profession is examining itself closely and critically and that in the event of any criticism, a means does exist whereby a fair hearing can be had and the facts understood. Its availability is of inestimable value to the honest attorney, seeking to fully represent his client in his effort to obtain an unbiased opinion as to the merit of his client's petition. The unscrupulous attorney would have no use for the Screening Panel. Experience to date bears out these hypotheses.

Your Committee feels that this provides the best possible protection for the defendant physician. If he has not erred, he is offered a better medium than any other available whereby his patient might be led to understand the facts and allay his antipathy. It also gives an opportunity for the "airing of the facts" and a settlement without the filing of a mal-practice action, with its attendant unfavorable publicity to the physician. In that occasional case where the physician feels himself blameless, but the Panel finds otherwise, it gives him a chance to see the position in which he is really to be placed and an opportunity to prevent this through out of Court settlement.

The Panel's effectiveness is dependent upon its use by both parties. While its acceptance has been excellent in certain parts of the State, in others there was a tendency to bypass it entirely on the part of defendant attorneys. This resulted in a complete loss of the Panel's service to the principles for which it was established. In order to preserve its existence and the service which it is potentially capable of rendering the profession in the State, it was recommended (and the Society in 1965 adopted) a plan to make possible the presentation of cases brought by the plaintiff even when the defendant would not agree. With all candor, this was a means of self-preservation for the existence of this instrument, your Screening Panel. It would not have been recommended had it not seemed to be a necessity at the time, if the Panel was to be preserved.

Since its establishment, the Panel has heard twenty cases. Of these eighteen were with the agreement of plaintiff and defendant, and two on unilateral petition. Twelve of eighteen cases were found in favor of the defendant and in each case of unilateral petition, the decision was found in favor of the defendant. Thus, a total of fourteen cases in which the Panel's decision was against the plaintiff's allegations!

It is estimated that there are at the present time in the State of Virginia seventy mal-practice actions for which insurers have provided, or set aside funds for settlement or defense. As this year has progressed the interest expressed in the Panel has increased and it has been necessary to plan Panel hearings once each month. The hearing load must be covered and arrangements will be made by the Committee to see that this is done.

Each Panel hearing requires the attendance of three physicians and three attorneys. Each of these men must be a member of his respective Liaison Committee. It becomes immediately apparent that the work expected of the members of these two Committees goes far beyond that normally rendered by a member of either organization, in his routine Committee assignment. Furthermore, it is the feeling of your Committee that these hearings are for a specific service to a specific colleague and that the demand thus made of its members for Panel hearings, differs considerably from that of any other Society committee.

During the year it became necessary for members of the Society to be found to testify in the event that a case went to Court. In one such instance, the case was settled before its submission to the Jury and the other has not yet come up for trial. As of this date, there has been no case heard by the Panel which has gone to a Jury and only one has reached Court. In no case found against the plaintiff, has such plaintiff been able to obtain counsel who would proceed further with suit. In the twenty cases heard to date there has been unanimity in all twenty decisions (and vote is by secret ballot).

We recognize that it will not be possible to continue the above records. Nevertheless, it is our feeling that they attest to the effectiveness of this means of approaching a problem and it would appear to have served a worthwhile purpose in those cases which have been submitted to the Panel.

Certain form letters have been prepared for use when needed and certain additional instructions, etc., prepared to guide parties appearing before the Panel in the presentation of their points of view. Copies of these documents are available to any member of The Medical Society of Virginia through the State office.

In conclusion, the Committee offers the following recommendations:

1. That the Panel Agreement, as presently written, be continued and endorsed by the House of Delegates of The Medical Society of Virginia.

2. That The Medical Society, Liaison Committee To the State Bar be allowed in conjunction with Liaison Committee of the State Bar to The Medical Society of Virginia to make such rules of procedure and conduct, and publish such explanatory material as it deems advised in the interest of the conduct of the Medico-Legal panel hearings.
3. That the actual expenses of members of this Committee attending Panel hearings only be borne by The Medical Society of Virginia.
   Insofar as possible these expenses will come from the fees collected on behalf of such hearings, but in the event that these monies are inadequate, necessary supplements from the general fund will be made to cover such expenses.
4. That every ethical opportunity for furthering the knowledge of physicians and citizens in our Commonwealth of the existence of this Committee and its service be encouraged.
5. That the membership of this Committee will be kept at the maximum strength allowed under the Panel agreement, in order to minimize the work required of each member in the Panel Hearings and to increase the number of members of The Medical Society, who have an opportunity to serve and familiarize themselves with the efforts made by this Committee.

JOHN O. BOYD, JR., M.D., *Chairman*

Rehabilitation

The Committee on Rehabilitation, which serves also as the Advisory Committee to the State Department of Vocational Rehabilitation, met on November 14, 1965, and discussed vocational rehabilitation for persons with chronic renal disease, vocational rehabilitation in Virginia, and had review and discussion of the revised surgical fee schedule.

Dr. Roy M. Hoover moved from the state and resigned as Chairman of the Rehabilitation Committee. Dr. Alexander McCausland, already a member of the committee, was appointed as Chairman to succeed Dr. Hoover. Dr. David Webster, of Staunton, was appointed to fill Dr. Hoover's vacancy. Dr. W. Kyle Smith moved from the State and resigned from the committee. Dr. Joseph T. Kaye, of Arlington, was appointed to fill Dr. Smith's vacancy.

Individual committee members living in various geographic areas continued to provide consultative service to the professional staff of the agency on rehabilitation cases involving complicated medical problems and in the establishment of medical fees. Professional guidance by the committee has been given in the development of new procedures and policies concerned with the provision of physical restoration services for eligible handicapped individuals.

ALEXANDER MCCAUSLAND, M.D., *Chairman*
JOSEPH R. BLALOCK, M.D.
GEORGE A. DUNCAN, M.D.
JOHN B. REDFORD, M.D.
J. TREACY O'HANLAN, M.D.
HUNTER S. JACKSON, M.D.
G. S. FITZ-HUGH, M.D.
FRANK B. STAFFORD, M.D.
RENO PORTER, M.D.
JAMES L. THOMSON, M.D.
CARNEY C. PEARCE, JR., M.D.
CHARLES L. SAVAGE, M.D.
DAVID K. WEBSTER, M.D.
JOSEPH T. KAYE, M.D.

SCIENTIFIC EXHIBITS

Scientific Exhibits will be in North Ballroom and the Tidewater Room with the Technical Exhibits.

STUDY OF A PRISON POPULATION: TESTING GROUND FOR NEW DRUGS—Harry Brick, M.D., W. H. Doub, Jr., M.A., and W. C. Perdue, M.S., Richmond.

Life "outside" is not as different from that within the "walled city". In either situation we must try to permit the individual to cope with reality. Meaningful occupation, recreation outlets, spiritual guidance, and drug therapy where necessary, all play important roles in achieving this goal.

BASAL ANESTHESIA IN PLASTIC AND RECONSTRUCTIVE SURGERY—C. E. Horton, M.D., H. H. Crawford, M.D., J. E. Adamson, M.D., and A. Greenwall, C.R.N.A., Norfolk.

The use of basal anesthesia in adults as well as children is a feasible, safe and simple technique to allay apprehension and fear of surgical procedures that can be performed under local anesthesia. The procedures for accomplishing basal narcosis are outlined, and the results obtained in a series of over 1,300 cases in which basal and local anesthesia were combined as described.

SURGICAL RECONSTRUCTION OF THE RHEUMATOID HAND—Jerome E. Adamson, M.D., Charles E. Horton, M.D., and Hugh H. Crawford, M.D., Norfolk.

The author's cumulative five years experience in surgical reconstruction of the rheumatoid hand is clearly presented with additional art work, illustrated transparencies, and a sound movie demonstrating the operative technique.

RENAL INFARCTION AND HYPERTENSION—Charles J. Devine, Jr., M.D., Eugene F. Poutasse, M.D., Patrick C. Devine, M.D., and Charles J. Devine, Sr., M.D., Norfolk.

Ischemic renal infarct: necrosis of all or part of the kidney produced by sudden arrest of circulation in an artery. It produces a characteristic syndrome with severe, persistent, non-radiating renal pain lasting one to four days. Leucocytosis is present, the urinalysis is normal at the onset with proteinuria, pyuria and hematuria developing later with elevated serum lactic dehydrogenase. A cold spot on the radioactive renal scan is then diagnostic of renal infarction. The diagnosis is confirmed by demonstration of a lesion by renal arteriography or exploration.

Virginia Treatment Center for Children—Child Psychiatry Field Unit—Douglas F. Powers, M.D., Richmond.

Service and teaching activities of the Virginia Treatment Center for Children and the Division of Child Psychiatry, Medical College of Virginia, will be detailed. The activities of the Child Psychiatry Field Unit, supported by a National Institute of Mental Health Grant, will be high-lighted.

Immunization Record Cards. Permanent Plastic Immunization Record Card—James E. Donoho, U. S. Public Health Service, Richmond.

The immunization record card exhibit present a motorized circular carrousel display which offers national statistical data concerning communicable diseases, DPT, measles and polio. There will be a four paneled self-contained aluminum exhibit which emphasizes a permanent immunization record card. Sample cards wil be available at the exhibit.

Hill-Burton's 20th Anniversary—Bureau of Medical and Nursing Facilities Services, Virginia Department of Health, Richmond.

The exhibit contains statistical data and displays of the Hill-Burton program at the federal level, as well as the State of Virginia level.

Noise in Industry—M. M. Mackay, M.D., Clifton Forge.

Exhibit shows typical paper mill production and accompanying noise. Preventive measures.

Newest Birth Control Methods in Use in Virginia—Sarah E. Thomas, M.S., Richmond.

Display of the two newest methods of contraception used in the Virginia Planned Parenthood clinics. Information literature.

Exploration of Spinal Fusion in Scoliosis—Virgil R. May, Jr., M.D., and William R. Mauck, M. D., Richmond.

Examples of different types of bone grafts used are shown with their results. Pseudarthrosis at the time of operation is demonstrated.

The Physician, Poverty and Voluntary Sterilization—Association for Voluntary Sterilization Inc., New York, New York.

The exhibit displays a sign presenting facts on voluntary sterilization as a method of birth control. Completing the exhibit is a selection of professional literature, available free, on the medical, legal and socio-economic aspects of voluntary sterlization.

Glaucoma Screening Center—M. K. Humphries, Jr., M.D., James W. Phillips, M.D., and Margaret F. Bowers, M.Ed., Richmond.

You are invited to have your eyes screened for possible glaucoma. The exhibit will also be a demonstration of the use of the Schietz tonometer for detecting a possible symptom of glaucoma. Officiating ophthalmologists will be glad to explain this technique and answer your questions.

Cephaloridine—New Broad-Spectrum Antibiotic—Ralph R. Landes, M.D., Danville.

The exhibit will present the history of the development of the Cephalosporin antibiotics from the discovery of the fungus in 1945 to the present product.

Physicians' Placement Service—American Medical Association and the Virginia Council on Health and Medical Care.

This is a "service" booth. Physicians wishing to register opportunities or those looking for locations may do so during the meeting. There is information for most specialities as well as general practice. Descriptive literature will be available including materials for office planning and the business side of medical practice.

Southern Medical Association—Martha D. Hooks, Birmingham, Alabama.

An educational exhibit of the Southern Medical Association depicting their activities.

Virginia Association of Medical Assistants

This exhibit is a display of the definition of a Medical Assistant, her position in the medical field, and information on improving her status as an employee and as a person.

Woman's Auxiliary . . . .

President ..... Mrs. George W. Kelly, Jr., Pulaski
President-Elect ..... Mrs. Ralph Landes, Danville
First Vice-President Mrs. William Reardon, Falls Church
Second Vice-President ... Mrs. J. R. McGriff, Arlington
Third Vice-President ... Mrs. Walter Eskridge, Parksley
Recording Secretary ... Mrs. Harold Goodman, Richmond
Corresponding Secretary Mrs. A. B. Gravatt, Kilmarnock
Treasurer ..... Mrs. Robert Mitchell, Arlington
Parliamentarian ... Mrs. T. N. Hunnicutt, Newport News
Historian ..... Mrs. W. Fred Delp, Roanoke
Publicity ..... Mrs. Daniel Anderson, Norfolk

PROGRAM

of the
FORTY-FOURTH ANNUAL CONVENTION

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

Williamsburg, Virginia **November 6-9, 1966**

Headquarters—Williamsburg Lodge

A cordial invitation is extended to all members of the Woman's Auxiliary to The Medical Society of Virginia, their guests, and the wives of physicians attending the convention to participate in all the social functions and to attend the general meeting of the Auxiliary.

All reservation tickets may be picked up at the registration desk.

Registration Hours

Sunday, November 6 ..... 3-6 P.M.

Monday, November 7 ..... 9 A.M.-5 P.M.

Tuesday, November 8 ..... 9 A.M.-12 Noon

Hospitality Room open during registration—East Gallery.

Sunday, November 6, 1966

4:00 P.M.—Pre-Convention Board Meeting, Motor House, Board Room. All State Officers, Directors, Committee Chairmen, County Presidents, and Presidents-Elect are expected to attend.

Mrs. George W. Kelly, President, presiding.

Monday, November 7, 1966

9:00 A.M.—Formal Opening of the Forty-fourth Annual Convention of the Woman's Auxiliary to The Medical Society of Virginia, Motor House, Lounge.
Mrs. George W. Kelly, President, presiding.
Invocation and Memorial Service—Mrs. F. Clyde Bedsaul, Floyd, Chaplain
Pledge of Loyalty
Address of Welcome—Dr. Edward P. Alexander, Vice-President and Director of Interpretation, Colonial Williamsburg.
Response—Mrs. Thomas N. Hunnicutt, Jr., Tabb
Greetings—K. K. Wallace, M.D., Norfolk—President-Elect, The Medical Society of Virginia
Roll Call—Mrs. Harold Goodman, Richmond—Recording Secretary
Convention Announcements—Mrs. Benjamin Daversa, Williamsburg
Presentation of Honored Guests:

Mrs. Asher Yaguda, Newark, New Jersey—President, Woman's Auxiliary to the American Medical Association
Mrs. William G. Thuss, Birmingham, Alabama—President Woman's Auxiliary to the Southern Medical Association and Past-President of the Woman's Auxiliary to the American Medical Association

Report of the Credentials Committee—Mrs. John Mullaney and Mrs. Howard Ashbury, Williamsburg
Report of Reading Committee—Mrs. Robert Mitchell, Arlington—Chairman
Report of Auditing Committee—Mrs. Martin Stoker, Arlington—Chairman
Recognition of State Officers and Committee Chairmen
Report of Delegate to the Forty-third Annual Convention, Woman's Auxiliary to the American Medical Association—Mrs. Linwood Ball, Richmond.
Recommendations from the Board.
Unfinished Business
New Business
Final Report of Credentials Committee—Mrs. John Mullaney
Report of Nominating Committee—Mrs. W. Nash Thompson
Election of Officers
Installation of Officers—Mrs. A. B. Gravatt, Jr., Kilmarnock
Presentation of Pin and Gavel—Mrs. George Kelly, Pulaski
Acceptance—Mrs. Ralph R. Landes, Danville
Presentation of Past-President's Pin—Mrs. W. Nash Thompson
Courtesy Resolutions—Mrs. Daniel Anderson
Adjournment

12:30 P.M.—Luncheon—Williamsburg Lodge, Rooms A, B and C—Perry MacNeal, M.D., Philadelphia—Guest Speaker, Music—Taylor Vrooman

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6:30 P.M.—Cocktail Party—The Medical Society of Virginia, North and East Galleries
7:30 P.M. Banquet, The Medical Society of Virginia—Virginia Room

Tuesday, November 8, 1966

8:30 A.M.—Past-President's Breakfast, Williamsburg Lodge, Room A.
9:30 A.M.—Post-Convention Board Meeting and Workshop, Motor House, Lounge. All new State Officers,

Directors, Committee Chairmen, County Presidents and Presidents-Elect are expected to attend. Mrs. Ralph R. Landes, President, presiding.

10:00 A.M.—Golf, Golden Horse Shoe Course, Williamsburg Inn

11:00 A.M.—Lecture—*"Williamsburg Before and After"* Mrs. Elizabeth Callis, Motor House, Lounge

1:30 P.M. to 3:00 P.M.—Conducted Tour of Carter's Grove, a James River Plantation

Wednesday, November 9, 1966

10:00 A.M.—Lecture, "Flower Arrangements of Colonial Williamsburg" Edna Pennell, Motor House, Lounge.

Committee on Arrangements

General Chairman ..... Mrs. Benjamin Daversa
Co-Chairman ..... Mrs. Harold E. Gillespie
Registration ..... Mrs. John Mullaney
Mrs. Howard H. Ashbury
Flowers ..... Mrs. Hugh G. Stokes
Finance ..... Mrs. George J. Chohany
Program and Printing ..... Mrs. Harold E. Gillespie
Arrangements ..... Mrs. Armistead D. Williams
Student Workshop ..... Mrs. George J. Oliver, Jr.
Luncheon ..... Mrs. John S. Fletcher
Golf ..... Mrs. Armistead D. Williams

Mrs. Asher Yaguda,

Newark, New Jersey, was installed as president of the Woman's Auxiliary to the American Medical Association at the 43rd annual convention held in June 1966, in Chicago.

An active auxiliary member for 25 years, she previously served the national auxiliary as first vice-president, director, chairman of the structure review committee; eastern regional chairman of community service; chairman of the public relations committee; and chairman of the homemaker service manual committee, that prepared the "Homemaker Guide" which the auxiliary published in 1962. She also headed the committee which produced the second "Guide" in 1963.

She served her state auxiliary as chairman of the rural health program; chairman of the school health program; president, 1943-44; and parliamentarian, 1963-64.

Marion Archbold Yaguda was born in Westfield, New Jersey, and is a graduate of the Yonkers (N.Y.) Hospital School of Nursing. Her husband is a pathologist. The Yagudas have one daughter and two grandchildren.

Mrs. Yaguda has devoted herself unstintingly to service in her community and her state. She has been active in party as well as non-partisan politics; was vice-president of her county Republican Women's Club, and has held various offices with the League of Women Voters.

In recognition of her many services to her city, county and state, Mrs. Yaguda was named Woman of the Year, 1959-60, by the Essex County Council of Business and Professional Women's Clubs. She has received additional citations for service from: New Jersey Mental Health Association, New Jersey Society for Crippled Children and Adults, National Multiple Sclerosis Society (North Jersey Chapter), American Red Cross (Newark Chapter), American Cancer Society (New Jersey Chapter).

In May 1966 The Medical Society of New Jersey presented to Mrs. Yaguda a citation of merit in recognition and gratefulness for past services.

Her hobbies are gardening and American antiques, especially furniture and glass.

Undoubtedly, the nicest thing ever said about Mrs. Yaguda was at the time of receiving the Woman of the Year Award: "She walks with one hand in God's and one in the hand of the needy".

Editorial . . . .

Not Above, But Beyond

When we assumed the soldier we did not lay aside the citizen.—
GEORGE WASHINGTON

BY A TOKEN similar to the above asseveration of George Washington, it may as positively be held that when we assumed the role of physicians and surgeons, or that of devotees to any of the ancillary specialty fields related thereto, we did not alienate ourselves from our obligations as statesmen. A statesman, let it be understood at the outset, differs from a politician in that the latter is primarily concerned with the next election while the former is basically concerned with the next and a succession of generations.

To all of the following named men a double barreled common denominator was, and is, applicable: Josiah Bartlett, George Taylor, Lyman Hall, Mathew Thornton, Oliver Wolcott, and Benjamin Rush. All of the foregoing were physicians and they were all signers of the American Declaration of Independence.

Of the six, the two most distinguished as statesmen were the first, perhaps, and certainly the last listed.

As an exponent of both civilian and military medicine, Benjamin Rush was in a class equalled by few either before or since his time. This most remarkable man was endowed with striking independence of thought, uncommon courage of conviction, an exceedingly versatile mind and a phenomenal perspicacity in the field of his primary profession as well as in an assortment of areas unrelated to medicine. If Benjamin Rush possessed attributes that matched his metier as a physician—that bore him not above but beyond his professional sphere—they were attributes distinctive of a statesman.

On 4 June 1904, a statue of Dr. Rush was unveiled on a plot of ground in front of the oldest and most dominant of the structures* that now comprise the building complex of the Navy's Bureau of Medicine and Surgery at 23rd and "E" Streets, Northwest, Washington, D.C. The speech of acceptance apropos the unveiling of that statue was made by the President of the United States, Theodore Roosevelt.

President Roosevelt, before a sizable gathering of people, accepted the monument as a gift from the medical profession to the Nation. In a graceful and interesting address the President said in part: "I would earnestly plead that you never for one moment forget the fact that the well being of the Republic depends upon the way in which, as a rule and habitually, the best citizen does his duty to the state, and we have a right not merely to expect, but to demand, from our hardest worked men, from the leaders of the great professions, the full performance of that public service which consists in a zealous, intelligent and fearless performance of the ordinary duties of public life by the private citizen."

The sense of this declaration by a great President was never more apposite than today. Let the doctors of the Nation take note.

These "troublous times" has become a hackneyed and more or less generally accepted term. In the writer's view, all times have been troublous. They have been troublous because mankind, from his most primitive to his most advanced state of civilization, has shown an innate propensity for engendering trouble. And it is difficult to believe the human race will suddenly abandon a behavior that has seemed to be an immutable characteristic of its nature since long before history began. This immutable characteristic—for want of a more definitive term—we simply call human nature. In its fundamental attributes human nature does not perceptibly change and it is virtually the same the world over.

However, no sensible person will contend that due cognizance should not have been taken of the troubles with which we have contended in the past. If such cognizance had not been taken, our Nation would never have reached its present state of development and our way of life would have deteriorated instead of improved. That there is imperative reason for taking account of the troubles that currently beset our Nation no thoughtful people will deny.

Why mankind has shown so abject a disregard for the lessons of history is one of the unfathomable mysteries of history itself. Thomas Carlyle (1795-1881), in his famous essay on history, asked: "What is all knowledge but recorded experience, and a product of history?" While George Wilhelm Friedrich Hegel (1770-1831), the German philosopher, declared that "what experience and history teach us is this—that people and governments never have learned anything from history, or acted on principles deduced from it."

Approximately two decades ago Basil O'Connor, erstwhile (1944-1949) President of the American National Red Cross, in a speech in New York City, stated: "All history attests that, when left to their own devices, nations tend to socialize themselves." Our Nation has become fabulously great—and this writer thinks it perhaps became so prematurely—but whatever the height it has reached, that height was not attained under any socialist system.

We, as members of an old, noble and extraordinarily intellectual profession have recently witnessed the enactment of a piece of politically inspired socialistic legislation that, from the standpoint of needlessness, in the estimate of the overwhelming majority of physicians throughout the land, surpassed any law to be enacted by the United States Legislature during the memory of the oldest of us.

All of us are aware that change is essential to progress and that progress is essential to survival. Predicated upon the recognition that some measure of change is in order, the important desideratum is to evaluate properly whether such change as may be under consideration will be to the advantage of our society or to its detriment, whether it bids fair to social and economic constructiveness or augurs evil as potentially destructive both of morale and morals, whether order or chaos is at stake.

As a class, members of the medical profession, because of the demands of their calling that they be realists, have always been as well, if not better, qualified as the members of any profession to make this kind of

differentiation. They still are. They are as well, or better, endowed as members of any other profession to differentiate between the flowers of fact and the weeds of fancy, fiction and fallacy, and to sow in the minds of their clientele the seeds of wisdom and vigorous statesmanship. Their busy schedules notwithstanding, the readers of this editorial are importuned not to disregard their opportunity and indeed their obligation as citizens of a great nation to render to their Nation a service that is not above, but beyond their strictly professional activities.

Yes, Brutus, "there is a tide" not only "in the affairs of men," but a tide in the life of nations as well "which taken at its flood, leads on to fortune."

A principal determinant of whether it is fortune or misfortune to which a nation such as ours is being led—and, if to fortune, how long that fortune will endure—will reside in its elected leaders; and the brand of leaders upon whom it will devolve to guide the destiny of our Republic is an unequivocal responsibility of the voting populace of the Republic. The voting populace should constantly and eternally keep, or be kept, mindful of this fact.

It has been suggested by profoundly scholarly people that the world today is headed toward the final impasse, the apocalypse, swept onward by such a fate as that which, in Sophocles' "Oedipus Rex", seized a hold upon Cedipus who, although fully aware of his actions, was unable to desist, and so continued steadily to advance nearer and nearer to death, while a group of onlookers, as powerless as he, in sympathy and self pity, could only cry "alas".

While, to this commentator, this estimate of the current status of civilization could be entirely correct, he prefers, despite mounting evidence to the contrary, to think it is not correct.

It is our hope and our prayer that the subtly (and not exceedingly subtle, at that) destructive tide of our time is not beyond stemming, and that the physicians and dentists of our Nation may play a significant role in wisely and effectively directing its course and power.

Failing, so what? "The answer, my friends, is blowing in the wind."

H. Lamont Pugh, M.D.

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*On 7/September/1965, in accordance with the 1935 Congressional act, known as the "Historic Sites Act", the building in front of which the statue of Benjamin Rush stands was formally designated a "Registered National Landmark". Thus was conferred upon it an immunity against future demolition incident to the forces of man operating in the name of progress.

That this designation stemmed from this building's having been the original U. S. Naval Observatory and, as such, the workshop of a famous Virginian, Matthew Fontaine Maury, the Navy's first hydrographer, should be of special interest to Virginians in general.

That in 1902, an additional measure of fame was accorded this same building when it came to house the U. S. Naval Medical School, established in that year by another distinguished Virginian—born near Culpeper—Pressley M. Rixey, personal physician to both Presidents McKinley and Theodore Roosevelt, and who, for two four year terms, during the first decade of this century, was the Surgeon General of the Navy undoubtedly justifies the focus of particular interest in the building, not only on the part of Virginians but, to some degree, on the part of members of the medical profession and of the public at large.

European Postscripts

AN IMPRESSION obtained in England last year was brought home to the writer again this summer, so the initial observation must have been correct. The degree of Doctor of Medicine apparently carries with it little distinction in Great Britain today. The writer was on vacation, and admittedly did not emphasize that he was a physician, but whenever he signed a hotel register, this title was used. The desk clerk would scan the signature closely, and without exception would say, "Yes Mister so-and-so". All subsequent written or verbal communications were invariably initiated in the same manner. This also was true following introductions. A moment after the American would introduce himself as "Doctor", he would find himself addressed as "Mister". This was not due to the unflattering British custom of calling all surgeons "Mister", for the specialty of the writer was never mentioned. It is hard to escape the conviction that it indicated rather the low esteem in which the medical profession is held in the United Kingdom under the National Health Service.

A brief stay in the land of de Gaulle and the 40 (million) thieves brought a different set of impressions. The Paris edition of The New York Times seems to place a somewhat more liberal interpretation on the type of "news that's fit to print" than its American counterpart. The feature article on August 11 was Martin Tolchin's scoop concerning the self-limited population explosion that had just occurred in the New York area 270 days after the blackout last fall that plunged the city into darkness.

In some ways Paris has changed. One facility, notably absent today, was the quaint little comfort stations that seemed to dot every street corner 30 years ago. Only five were seen in two long pilgrimages about the city. They must have gone underground, perhaps as a result of the Occupation. The men who hawk the artistic postcards seem to have lost their old time verve too and appear more ready to accept the explanation that the hopeful purchaser is a physician.

The oddest item was saved for the moment of take off of the AIR FRANCE jet on the homebound flight. Some jokester with a wry sense of humor must have told the local music authorities that "Taps" was our national anthem or something closely akin to it. As the stairs were rolled away from the plane and the door was closed and secured the mournful bugle notes came over the public address system. They were loud and clear. The bugler seemed to linger over the last sad notes overly long and in the silence that followed one could almost hear the earth sifting down on the coffin. The Americans looked at each other in dismay and the plane took off. This was repeated in mid-ocean for the benefit of those who may have missed it the first time, and again as the plane came down through the fog to land at Dulles.

All of which reminds the writer of the familiar lyrical observation made a half-century ago—indeed, "the French they are a funny race".

H. J. W.

News . . . .

Calendar of Events

Course on "Industrial Medicine: The Doctor's Role in Occupational Health" —Sponsored by Mound Park Hospital Foundation and Department of Medical Education of Mound Park Hospital—St. Petersburg, Florida—October 20-22, 1966. (18 hours)

Program on Gastroenterology—University of Virginia School of Medicine—Charlottesville—October 28. (6 hours—6 guest professors)

Virginia Hospital Association—Annual Meeting—Hotel Roanoke—Roanoke—November 3-4, 1966.

International College of Surgeons, Virginia State Surgical Division—Meeting at 1:00 p.m.—Williamsburg Lodge—November 6, 1966.

The Medical Society of Virginia—Annual Meeting—Williamsburg—November 6-9, 1966.

4th Annual Kidney Symposium—Sponsored by Virginia Kidney Foundation—Richmond Academy of Medicine, Richmond—November 11, 1966.

Virginia Association of Medical Assistants—Annual Meeting—Hotel John Marshall—Richmond—November 11-13, 1966.

Conference on Handicapping Conditions of Childhood—Sponsored by Virginia Council on Health and Medical Care at request of the Nemours Foundation—Charlottesville—November 16-18, 1966.

Pulmonary Problems—University of Virginia School of Medicine—Charlottesville—November 18-19, 1966. (9 hours)

AMA Clinical Convention—Las Vegas, Nevada—November 27-30, 1966.

Conference on Population Growth—Hotel John Marshall—Richmond—December 6, 1966.

Virginia Board of Medical Examiners—Hotel John Marshall—Richmond—December 11-12, 1966.

Seminar on Practical Aspect of Neurology and Psychiatry for the General Practitioner—Sponsored by the Department of Neurology and Psychiatry and the Office of Continuing Education of the University of Virginia School of Medicine —The Homestead—Hot Springs—January 26-28, 1967.

Virginia Academy of General Practice—Annual Meeting—The Homestead—Hot Springs—March 2-5, 1967.

Virginia Society of Anesthesiologists—4th Annual Meeting and Scientific Symposium—Sheraton Motor Inn—Richmond—April 14-16, 1967.

New Members.

The following new members were received into The Medical Society of Virginia during the month of August:

Robert T. Corney, M.D., Charlottesville
Joseph G. Fiveash, Jr., M.E., Norfolk
Hobart G. Hansen, M.D., Staunton
Robert A. Jahrsdoerfer, M.D., Charlottesville
John J. Krueger, M.D., Virginia Beach
Samuel P. Massie, M.D., Stuart
John G. Setter, M.D., Richmond
David K. Webster, M.D., Staunton

Lynchburg Academy of Medicine.

Dr. William H. Barney is president of the Academy for 1966-7 with Dr. Robert L. Morrison president-elect. Dr. G. Edward Calvert is vice-president and Dr. W. M. Massie, secretary-treasurer.

Virginia Pediatric Society.

The annual meeting of this Society will be held in Williamsburg, February 24-25, 1967. For further information, write Dr. William D. Liddle, Secretary-Treasurer, 2301 Fall Hill Road, Fredericksburg.

American Academy of Pediatrics.

The 35th annual meeting of the Academy will be held at the Palmer House, Chicago, October 22-27.

Virginia speakers on the program are: Dr. Audrey K. Brown, Charlottesville, on Neonatal Hyperbilirubinemia and Dr. Edwin Kendig, Richmond, on Sarcoidosis in Childhood. Dr. Albert J. Paquin, Charlottesville, will moderate a panel on Urinary Tract Infection in Children and Dr. Calvin M. Kunin, also of Charlottesville, will be one of the panelists.

State Hospital Board.

Dr. Ira L. Hancock, Jr., Creeds, has been elected chairman of the State Hospital Board, the policy making body for Virginia's mental hospitals and related institutions. Dr. R. Coleman Longan, Jr., Richmond, has been elected to succeed Dr. Hancock as vice-chairman.

Dr. Fred T. Renick

Has been elected mayor of the City of Martinsville for a two-year term.

Dr. Donald L. Greever,

Chilhowie, has been appointed a member of the board for the Smyth County Welfare Board. He will serve for four years.

Dr. Adney K. Sutphin,

Richmond, has been named chief medical director for the Atlantic Coast Line Railway, succeeding the late Dr. B. W. Rawles, Jr. He was also recently named medical director of the Richmond, Fredericksburg and Potomac Railroad.

Dr. Owen Gwathmey,

Richmond, has been elected president of the newly organized Aylett Country Day School in King William County.

Dr. Oscar L. Hite,

Richmond, has been appointed physician for the University of Richmond. He succeeds the late Dr. J. Langdon Moss. Dr. Hite will serve all resident students and will direct the two infirmaries. He will continue his private practice.

Dr. J. B. Kiser,

Emporia, has been elected to the Board of Directors of the Citizens National Bank.

Dr. George Speck,

Alexandria, has been presented an Alumni Service Award by the General Alumni Association of The George Washington University, Washington, D. C. He is currently serving his second term as president of the Medical Alumni Association of the University.

Associates Wanted.

General practitioner, internist, or surgeon willing to do some general practice for association with generalist; Richmond, Virginia, environs; expense sharing arrangement; modern facilities, approved hospital; good living, recreation, schools, time off coverage; no investment; degree of association open. Need a second semi-retired physician also. Send curriculum vitae to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Desires Association.

Board eligible internist (Boards in October) desires association with group or physician of similar training or experience in Northern Virginia area or Washington, D. C. Write #110, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Student Health Physician

For State Rehabilitation Hospital in beautiful Shenandoah Valley of Virginia. General practitioner or internist to work with internist director. Basic salary $12,000.00 with regular increments. Virginia license necessary. Contact director of Medical Services, Woodrow Wilson Rehabilitation Center, Fishersville, Virginia. (*Adv.*)

Special Psychiatric Training Programs.

Stipend $12,000.00 per year. Program A —designed for practicing physicians who wish to take one year of full-time graduate study in psychiatry and then return to practice. Program B—involves three full years of psychiatric residency and is designed to prepare candidate for specialty board examinations. Applicants for either of these programs must be in some form of practice other than psychiatry for a minimal period of four years excluding internship. Training program is electically oriented, encompassing general psychiatry with elective programs in child psychiatry, research, psychosomatic medicine and community psychiatry. Applications now being accepted for July, 1967. For further information write Dr. William M. Sheppe, Jr., Chairman, Graduate Training Committee, Box 267, University of Virginia Hospital, Charlottesville, Virginia. (*Adv.*)

Obituaries . . . .

Dr. Antonio Austin Burke,

Virginia Beach, died August 12th, at the age of seventy-eight. He was a graduate of the Medical College of Virginia, class of 1910, and began his practice in Norfolk where he remained until his retirement. Dr. Burke was oculist for the Norfolk and Western, the Norfolk Southern, and the Seaboard Air Line Railroads. He served on the staffs of the Norfolk General, DePaul, Leigh Memorial and the Public Health Service hospitals in Norfolk, the Virginia Beach Hospital and Maryview Hospital in Portsmouth. Dr. Burke was a member of the Norfolk Lions Club and took a leading role in the eye conservation program of that organization, and he had also assisted other clubs in their eye work. In 1960 he was given the Half-Century Medical by the alumni association of the Medical College of Virginia for his work in his chosen field. Dr. Burke had been a member of The Medical Society of Virginia for fifty-four years.

His wife, a son and a daughter survive him.

Dr. Eugene Conway Eggleston,

Richmond, died August 19th following a heart attack which he suffered while playing golf. He was seventy-nine years of age and graduated from the Medical College of Virginia in 1908. Dr. Eggleston was a Mason, a member of the Scottish

Rite and Acca Temple Shrine, and had served as past master of Dixie Lodge in Fries, Virginia. He had been a member of The Medical Society of Virginia for forty-eight years.

His wife survives him.

Dr. Franklin Lawrence Overton, Jr.,

Suffolk, died August 19th at the age of fifty. He was a graduate of the Medical College of Virginia in 1942. After special training in pediatrics and service in the Navy Medical Corps, he located in Portsmouth where he practiced for two years before locating in Suffolk where he had been for sixteen years. In 1960, Dr. Overton served as acting chief of medicine at Obici Memorial Hospital. He had been a member of The Medical Society of Virginia since 1948.

His wife and three children survive him.

Dr. Feller.

The members of the State Board of Medical Examiners were shocked to learn of the untimely passing of Dr. Alto Edmund Feller. During the last several years Dr. Feller has attended the meetings of the State Board representing the Dean's Office of the University of Virginia Medical School. His wide knowledge of student problems and of medical affairs generally enabled him to render invaluable service to our Board. His honest approach to any situation, his friendliness and his sympathetic attitude towards our problems—these and many more attributes endeared Dr. Feller to all of the members of our Board. We shall indeed miss this outstanding man in medical education. We know that he will be a great loss to the medical school which he loved. We herewith express the deepest sympathy to the family and to the University of Virginia Medical School.

This memorial shall be entered in the minutes maintained by the State Board of Medical Examiners.

Joseph E. Gladstone, M.D., *President*
R. M. Cox, M.D., *Secretary-Treasurer*

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SYMPOSIUM ON ADOLESCENCE

NEW ORLEANS, LOUISIANA DECEMBER 1-3, 1966

Approved for 15 hours credit by the American Academy of General Practice
Sponsored by the

DIVISION OF PSYCHIATRY and COMMUNITY MENTAL HEALTH CENTER OF TOURO INFIRMARY

supported by a National Institute of Mental Health Grant

GUEST LECTURERS INCLUDE:

Dana Farnsworth, M.D., Director of Student Health Services at Harvard University, Cambridge, Mass.

Irvin Kraft, M.D., Professor of Child Psychiatry at Baylor Medical School, Houston, Texas.

John Schimel, M.D., Associate Director of William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology, New York, N. Y.

George Tarjan, M.D., Professor of Psychiatry and Program Director of Mental Retardation Project at University of California in Los Angeles, Calif.

Carroll Witten, M.D., President-Elect of American Academy of General Practice, Louisville, Ky.

AMONG TOPICS TO BE DISCUSSED:

"The Physician's Role in Mental Retardation"
"Parents of Problem Children"
"Handling of Adolescents by General Practitioners"
"Sexual Morality—A College Dilemma"
"Drugs in the Treatment of Children and Adolescents"
"Learning Problems of the Adolescent"
"Adolescence and Social Mores"
"Talking About Sex with Adolescents"
"Religious—Psychological Conflicts"

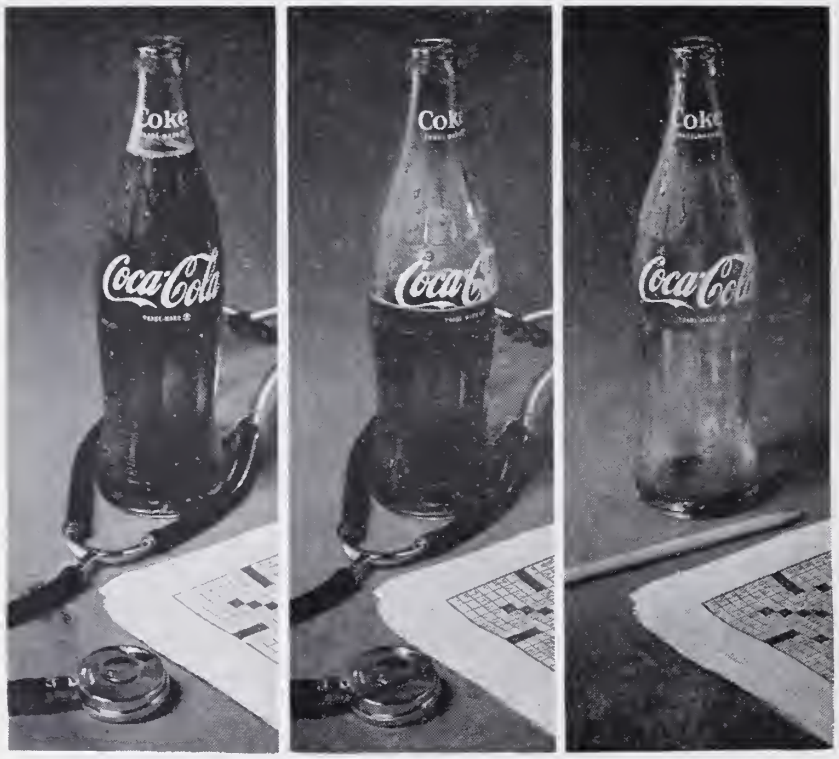
Symposium will be held at the Fontainebleau Motor Hotel, 4040 Tulane Ave.
Early hotel reservations are recommended.

GENE L. USDIN, M.D.
Director of Psychiatric Services
Touro Infirmary
1400 Foucher Street
New Orleans, Louisiana 70115

Enclosed is my registration fee of $20 for the SYMPOSIUM ON ADOLESCENCE to be given December 1-3, 1966 at the Fontainebleau Motor Hotel. (Checks should be made payable to Touro Infirmary.)

Name _____

Addresss _____



11:47 pm 11:53 pm 12:06 am

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Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution patients who operate machinery or motor vehicles that drowsiness may result.

Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

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NOVAHISTINE® LP

For relief of nasal congestion.

arrest diarrhea



LOMOTIL®

Each tablet and each 5 cc. of liquid contains:
diphenoxylate hydrochloride ..... 2.5 mg.
(Warning: May be habit forming)
atropine sulfate ..... 0.025 mg.

Effectiveness: Lomotil possesses a unique degree of effectiveness in both acute and chronic diarrhea.

Convenience: Lomotil is supplied as small, easily carried, easily swallowed tablets and as a pleasant, fruit-flavored liquid.

Versatility: The therapeutic efficiency, safety and convenience of Lomotil may be used to advantage alone or as adjunctive therapy in diarrhea associated with:

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- **Regional enteritis**
- **Drug therapy**
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- **Functional hypermotility**
- **Malabsorption syndrome**
- **Ileostomy**
- **Gastroenteritis and colitis**

Dosage: For correct therapeutic effect—Rx correct therapeutic dosage. The recommended initial daily dosages, given in divided doses, until diarrhea is controlled, are:

Children: Age	Total Daily Lomotil Dosage	Lomotil Liquid Dosage (Each teaspoonful [4 cc.] contains 2 mg. of diphenoxylate HCl)
3-6 months	3 mg.	½ tsp. 3 times daily
6-12 months	4 mg.	½ tsp. 4 times daily
1-2 years	5 mg.	½ tsp. 5 times daily
2-5 years	6 mg.	1 tsp. 3 times daily
5-8 years	8 mg.	1 tsp. 4 times daily
8-12 years	10 mg.	1 tsp. 5 times daily

Adults: 20 mg. (2 tsp. 5 times daily or 2 tablets 4 times daily) Based on 4 cc. per teaspoonful. Maintenance dosage may be as low as one-fourth the initial daily dose.

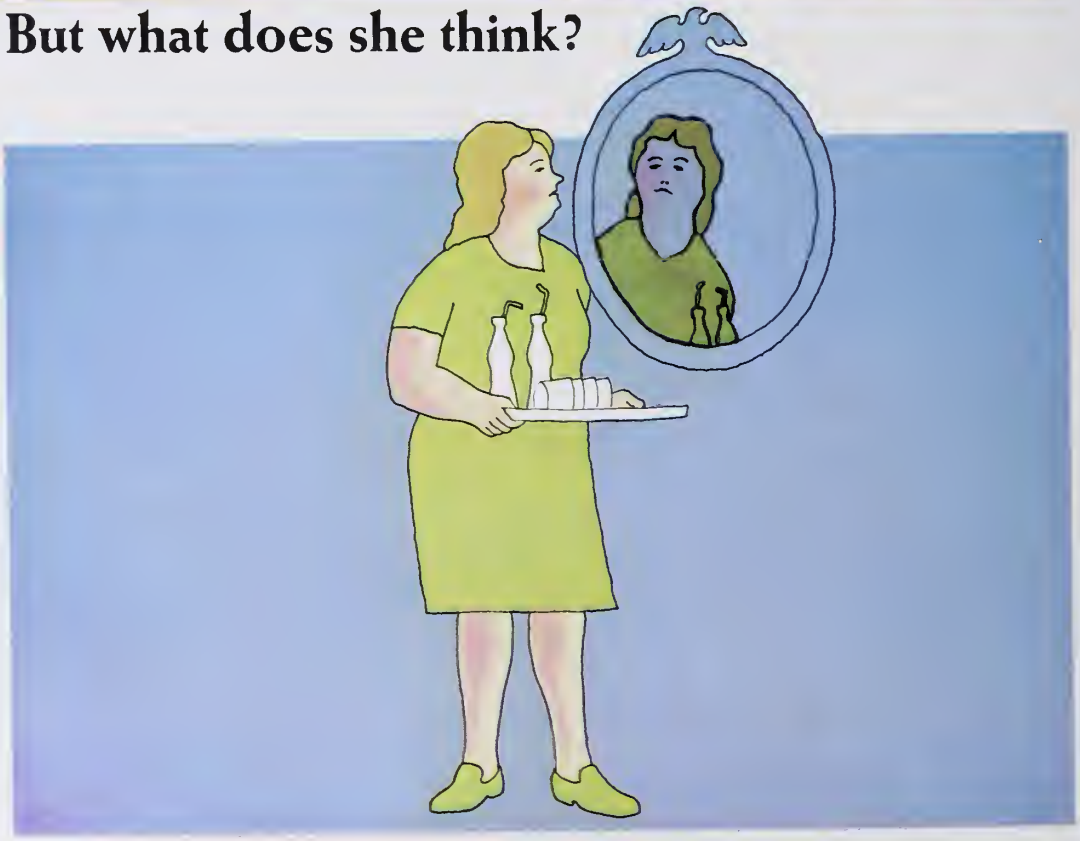
Precautions: Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is a Federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded. Lomotil should be kept out of reach of children since accidental overdosage may cause severe respiratory depression. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. The subtherapeutic amount of atropine is added to discourage deliberate overdosage.

Side Effects: Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.

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to help establish a new dietary pattern

Contraindications: Dextro-amphetamine sulfate: in hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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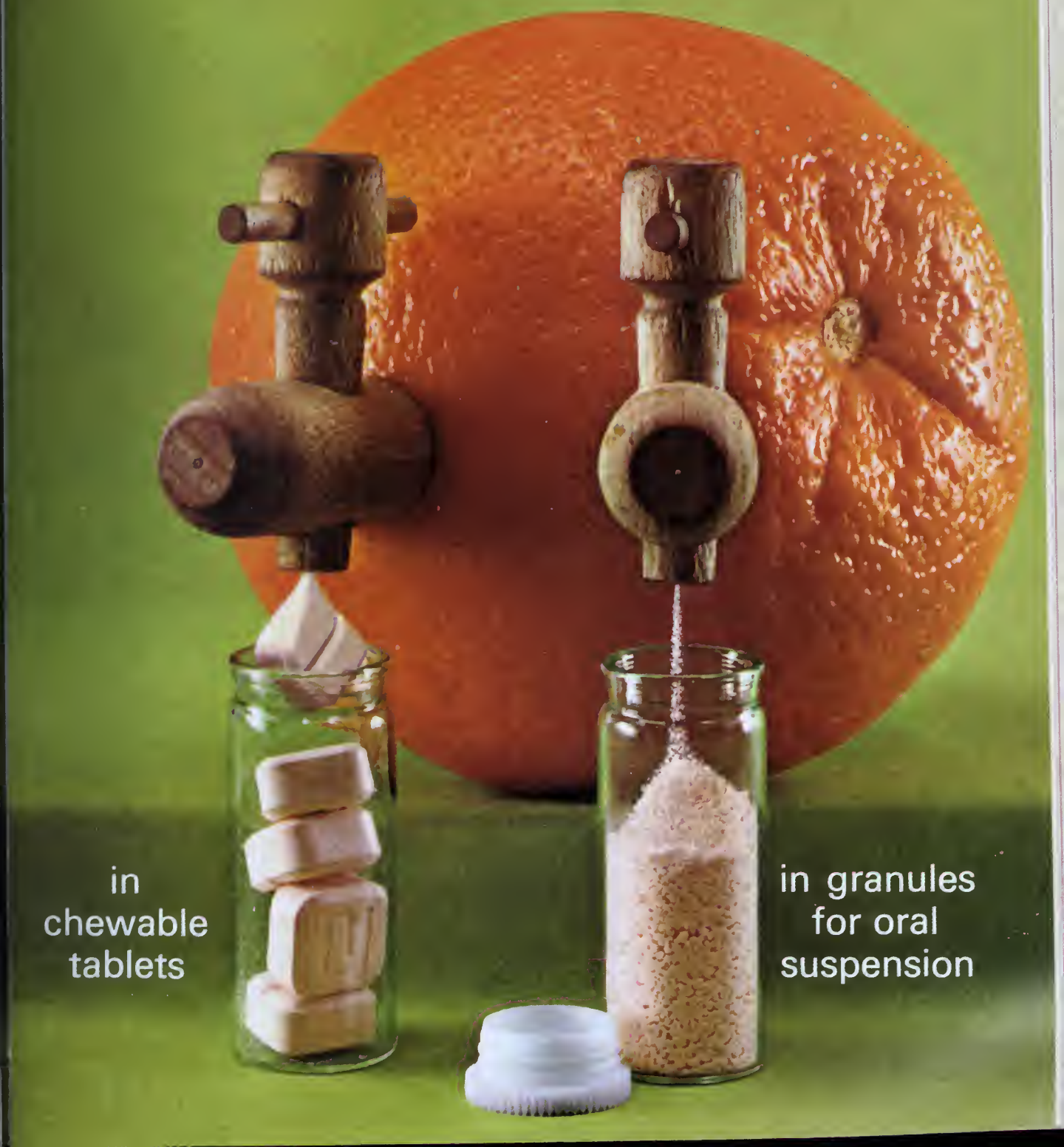
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Diuresis—a sought-after clinical effect from an unwanted side effect

It started in 1937 when a clinician reported that the administration of a sulfonamide was sometimes accompanied by an unexplainable side effect—metabolic acidosis.[1] Three years later the side effect was explained. The sulfonamide radical of sulfanilamide inhibited carbonic anhydrase,[2] the enzyme responsible for converting carbon dioxide and water to hydrogen ions and bicarbonate ions.

Later, other investigators showed by dog experiments that metabolic acidosis probably resulted when the inhibition of carbonic anhydrase upset the exchange of hydrogen and sodium ions, causing increased excretion of sodium as the bicarbonate.[3]

It was twelve long years after the first report of the unexplainable side effect (metabolic acidosis) that it was finally shown that large doses of sulfanilamide administered to edematous patients were indeed capable of promoting diuresis.[4] However, the possibility of toxic effects from its prolonged use and its relatively weak diuretic action made it impractical for clinical use as a diuretic.[5]

Because the inhibition of carbonic anhydrase seemed to be the key to effective diuresis, investigators began to look for more potent enzyme inhibitors—in the hopes that they would be more effective diuretics.

The most important of these early compounds, acetazolamide, enjoyed several years of fairly wide clinical use.

Its carbonic anhydrase inhibitory activity was several hundred times greater than that of sulfanilamide.[6] The increase in inhibitory activity, however, increased not only the excretion of sodium and bicarbonate ions, but also the excretion of potassium.[7] And, like its predecessor, acetazolamide precipitated mild acidosis. Its prolonged use could result in hypokalemic acidosis.[7]

The 'thiazides'—an answer to the metabolic acidosis caused by carbonic anhydrase inhibition

Despite the fact that the sulfonamide group appeared to be responsible for carbonic anhydrase inhibition which in turn appeared to be responsible for diuresis, investigators began to synthesize compounds with structural alterations to the sulfonamide group.

The first major breakthrough came with the synthesis of chlorothiazide. Altering the sulfonamide group did indeed alter the ability of chlorothiazide to inhibit carbonic anhydrase—it was only 1/10th as potent as acetazolamide in inhibiting the enzyme.[8] Despite the drop in inhibitory potency, however, chlorothiazide proved to be an effective diuretic—an observation that led to the conclusion that its diuretic action was due to some mechanism other than its action on carbonic anhydrase.[9,10]

For effective diuresis, chlorothiazide was administered in daily dosages ranging from 250 to 2000 mg.[11] It increased the excretion of sodium and chloride; and, to a lesser extent, potassium and bicarbonate.[11] The excretion of potassium appeared to be maximal at higher dose levels at which, theoretically, the carbonic anhydrase inhibitory effect is more active.[11] Its prolonged use, therefore, could sometimes result in metabolic hypokalemic, hypochloremic alkalosis.[7]

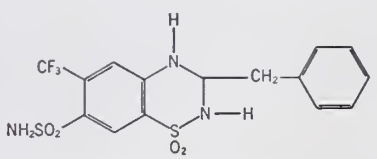
Naturetin—effective diuresis with more favorable electrolyte balance

Other thiazides followed—with improvements being aimed at two particular areas: 1. attempts to increase diuretic action in relation to the milligram potency of the drug, and 2. attempts at a more favorable sodium potassium ratio in the urine, i.e., to decrease the excretion of potassium while maintaining the excretion of sodium.[12]

One of these, Naturetin, Squibb Bendroflumethiazide, has made advances on both these points. "By adding a 3-benzyl radical to hydroflumethiazide a rather dramatic reduction in dose range is accomplished. With this drug, effective sodium excretion is obtained with doses between 2.5 and 10 mg., which is a 200 to 1 ratio as compared to chlorothiazide..."[13]

Moreover, due probably to its virtual lack of carbonic anhydrase inhibition, Naturetin (bendroflumethiazide) has been shown to cause less potassium and bicarbonate loss and less alteration in urinary pH than either chlorothiazide or hydrochlorothiazide.

Naturetin is outstandingly effective not only in establishing, but also in maintaining, excretion of retained fluid in edematous patients. And its duration of action is sufficiently prolonged to allow a single daily administration in most patients. Naturetin is also an effective antihypertensive agent.



Contraindications: Severe renal impairment; previous hypersensitivity.

Warning: Ulcerative small bowel lesions have occurred with potassium-containing thiazide preparations or with enteric-coated potassium salts supplementally. Stop medication if abdominal pain, distension, nausea, vomiting, or G.I. bleeding occur.

Precautions: The dosage of ganglionic blocking agents, veratrum, or hydralazine when used concomitantly must be reduced by at least 50% to avoid orthostatic hypotension. Electrolyte disturbances are possible in cirrhotic or digitalized patients.

Side Effects: Bendroflumethiazide may cause increases in serum uric acid, unmask diabetes, increase glycemia and glycosuria in diabetic patients and may cause hypochloremic alkalosis, hypokalemia; cramps, pruritus, paresthesias, and rashes may occur.

Supplied: Naturetin (Squibb Bendroflumethiazide) 5 mg. and 2.5 mg. tablets. Also available Naturetin c K [Squibb Bendroflumethiazide (5 or 2.5 mg.) with Potassium Chloride (500 mg.)]. For full information, see Product Brief.

References: **1.** Southworth, H.: Proc. Soc. Exper. Biol. & Med. *36*:58, 1937. **2.** Mann, T. and Keilin, D.: Nature *146*:164, 1940. **3.** Pitts, R. F., and Alexander, R. S.: Am. J. Physiol. *144*:239, 1945. **4.** Schwartz, W. B.: New England J. Med. *240*:173, 1949. **5.** Friedberg, C. K., in Moyer, J. H., and Fuchs, M.: Edema Mechanisms and Management, Philadelphia, W. B. Saunders Co., 1960, p. 259. **6.** Cumming, J. R.; Tabachnick, E., and Seelig, M., in Moyer, J. H., and Fuchs, M.: op. cit., p. 254. **7.** Werko, L., in Moyer, J. H., and Fuchs, M.: op. cit., p. 188. **8.** Beyer, K. H., Jr., in Moyer, J. H., and Fuchs, M.: op. cit., p. 274. **9.** Maren, T. H., and Wiley, C. E.: J. Pharmacol. & Exper. Therap. *143*:230, 1964. **10.** Earley, L. E., and Orloff, J.: Ann. Rev. Med. *15*:149, 1964. **11.** Fuchs, M., and Mallin, S. R., in Moyer, J. H., and Fuchs, M.: op. cit., p. 276. **12.** Ford, R. V., in Moyer, J. H., and Fuchs, M.: op. cit., p. 290. **13.** cited in Fuchs, M., and Mallin, S. R. (ref. 11): op. cit., p. 283.

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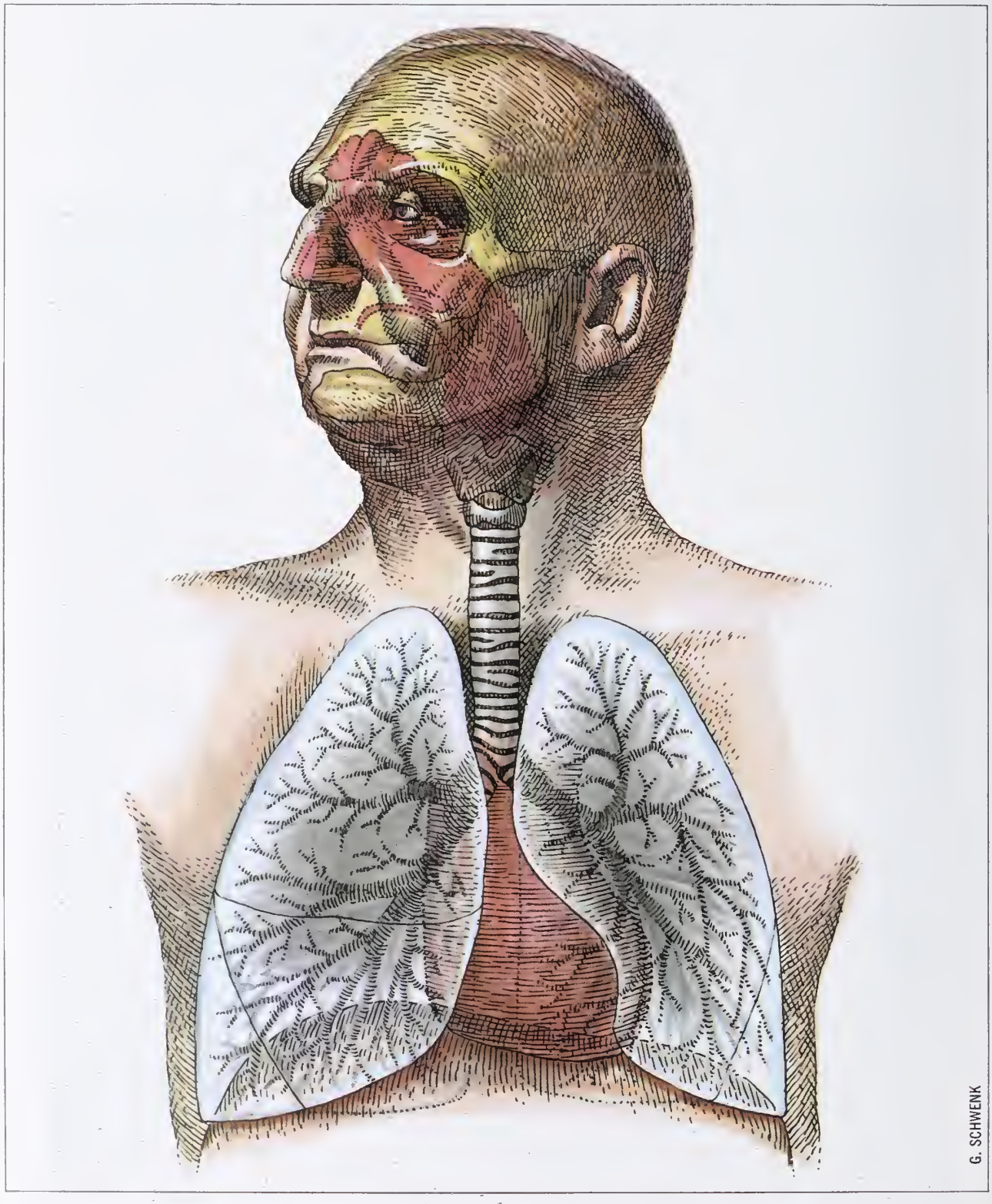
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this issue: the common cold and the aging patient

the common cold and the aging patient

Louis J. Vorhaus, II, M.D., F.A.C.P.



Effects of aging on the anatomic and physiologic aspects of the respiratory apparatus.

The chest becomes more fixed, less mobile and less elastic as the bronchial walls and thoracic ligaments lose elasticity. The diaphragm and intercostal muscles atrophy and weaken. The lungs become smaller, flabbier and weigh less, decreasing vital and total lung capacity, increasing residual volume and the alveolar dead space.

Sir William Osler described pneumonia as the welcome friend of the aged patient, because the patient with pneumonia usually died quietly. But today, the well-informed physician is an even better friend of the aging patient, since it is better to live than to die, no matter how quietly.

One of the first avenues of approach in the control of the hazards of respiratory disease in the aging patient is prompt and proper attention to the common cold or upper respiratory infection. The common cold may be the first step in the relatively short path to lower respiratory infection, broncho-pneumonia and death. This train of events occurs frequently among older persons. Indeed, pneumonia is one of the most common causes of their admission to hospitals and ranks high on the list of geriatric killers. Colds are more debilitating in elderly people and the aged are more likely candidates for secondary infections such as sinusitis and bronchitis. These infections, in turn, are more prone to lead to broncho-pneumonia, because of lowered resistance and anatomic and physiologic changes in the lungs of the elderly.

What is different about the respiratory tree of an aged person and that of an otherwise healthy younger adult? Aging certainly takes its toll on all parts of the body, affecting both anatomic and physiologic aspects of the respiratory apparatus. These changes are in part due to the wear and tear that occurs over the years; the repeated bouts of respiratory infection, long exposure to atmospheric pollutants, to occupational inhalants, smoking, malnutrition, obesity, inactivity and the development of other diseases which may affect the lungs.

With the passage of years, the lungs change. They become scarred and emphysematous and lose their compliance. The whole chest becomes more fixed, less mobile and less elastic.

The anatomic changes that occur in aging render the lungs less efficient. Tests of pulmonary function in senescence show a deterioration characterized by a decrease in vital capacity and total lung capacity, an increase in residual volume and alveolar dead space. Maximum breathing capacity is reduced and uniformity of ventilation deteriorates. These problems are often aggravated by the obstructed breathing, fever and secondary infection associated with the common cold, placing an additional stress on the entire cardiopulmonary reserve.

In addition, the efficiency of a cough is below par in older persons even though they are in good health. This is partly due to the decreased respiratory excursions and distensibility of the chest wall, and partly from loss of elasticity of bronchial walls which tend to make them collapse in a cough.

The elderly patient's resistance to infection is often reduced. Nutritional deficiencies are more common in aged people. There is some evidence to indicate that their capacity to respond to stress is less efficient. Finally, there is often relatively meager symptomatic response to acute disease. The absence of obvious or dramatic clinical signs and symptoms of severe illness is particularly dangerous because, coming as it

(concluded on following page)

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does in a person whose defenses are weakened both locally and systemically, pulmonary disease may progress rapidly to irreversible stages before medical attention is sought. Respiratory infection is especially hazardous because the aged patient responds badly to hypoxia. Not only is his response to oxygen lack impaired, but the work of breathing, due to decreased compliance of the lung and increased stiffness of the thorax, is markedly augmented.
Many patients late in life are in a precarious and delicate cardiopulmonary balance which is easily decompensated from relatively minor insults such as colds and upper respiratory infections.

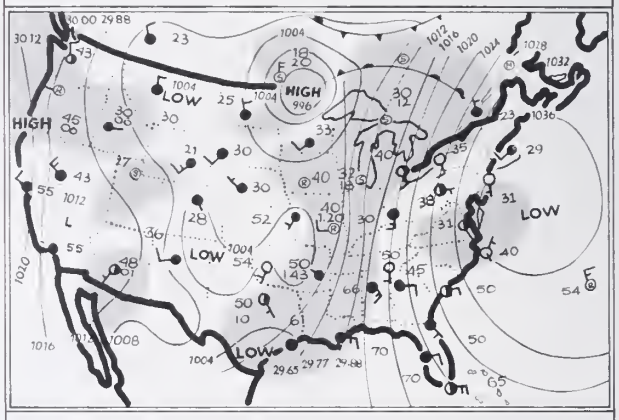
For all of these reasons, geriatricians long have stressed the importance of preventing respiratory insults. Today we have better ways of treating respiratory infection, improved techniques for clearing the lungs and bronchial tubes of secretions and better understanding of ways of improving ventilation. We possess a broader spectrum of antimicrobial agents including newer ones to deal with previously resistant organisms. Even so, the death rate from pneumonia is high in older people, and it is preferable to avoid the disease than to treat it. To do so, attention must be paid to the general maintenance of good health and all that implies, as well as to the prevention, elimination and treatment of associated conditions that predispose to or cause pneumonia such as chronic upper or lower respiratory infection, respiratory allergy, chronic sinusitis and exposure to inspired irritants.

Colds and other minor respiratory infections, which favor the development of broncho-pneumonia, should be treated vigorously and promptly, particularly those patients whose aging process has been accompanied by the development of chronic pulmonary disease. Upper respiratory passages should be cleared with decongestants. Sinuses should be drained adequately. And, when indicated, appropriate antimicrobial therapy should be instituted before serious infection of the lower respiratory tree supervenes.

In decades past it was understandable that physicians welcomed pneumonia for the aged patients because it offered them a quiet and peaceful demise. Today we recognize that in many cases, peaceful as it may have been, such deaths were often avoidable. With the current knowledge and understanding of the problems that respiratory infections impose on aging people, vigilant medical attention can often restore them to a vigorous, rewarding and productive life so that the many opportunities that exist today for people to enjoy their golden years are realized and not stolen by untimely death.

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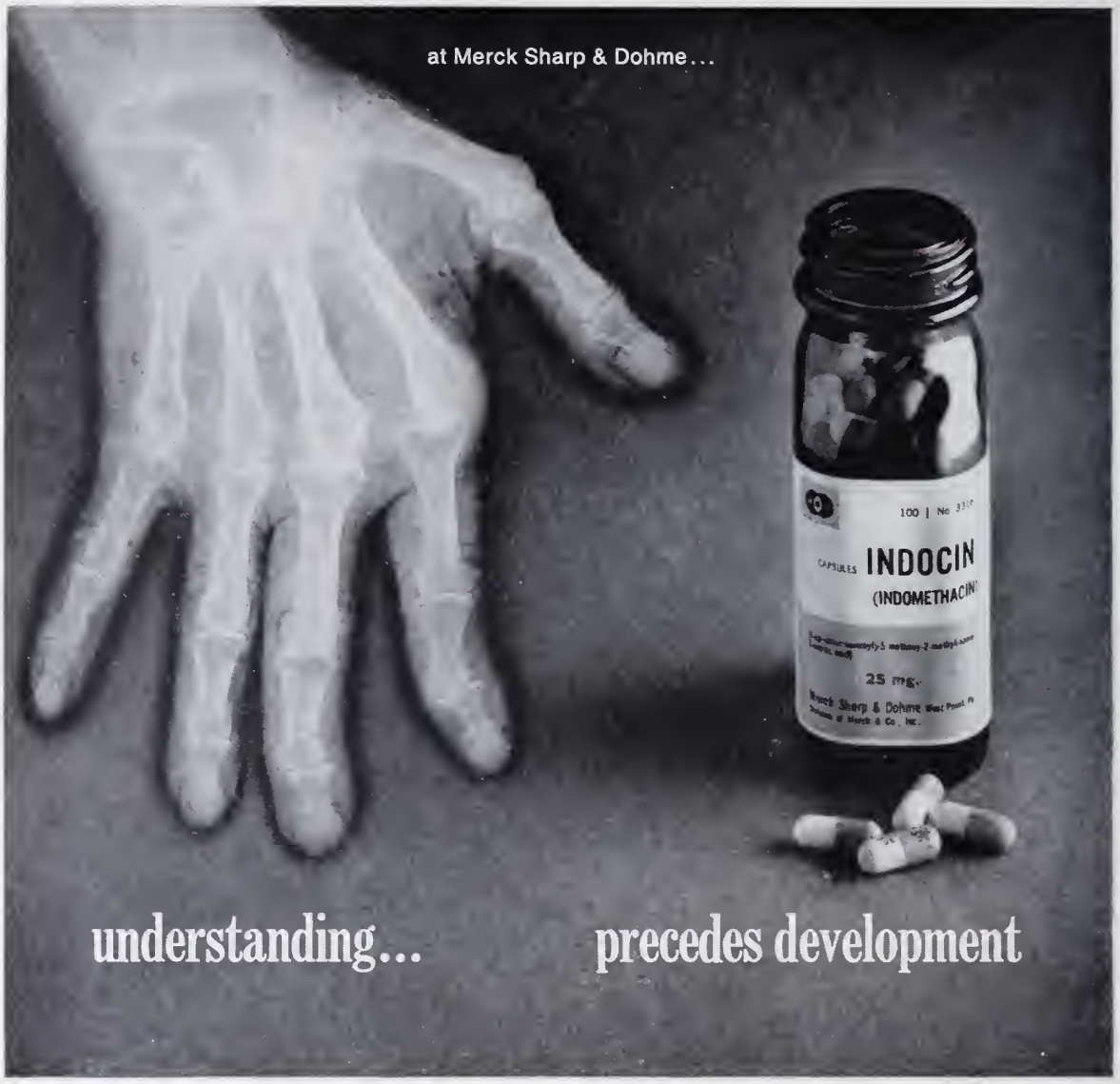
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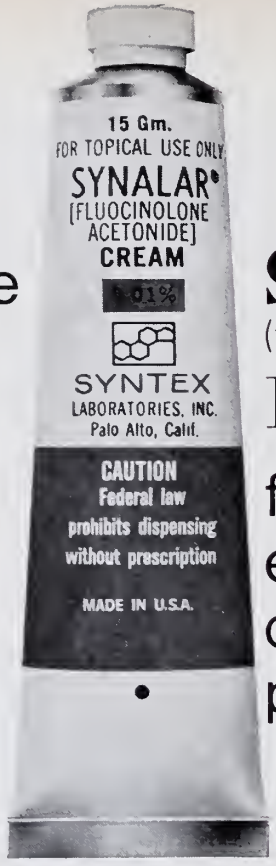
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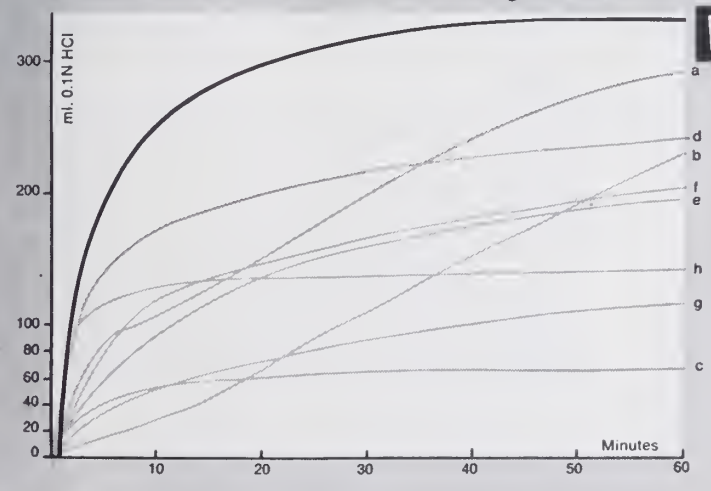
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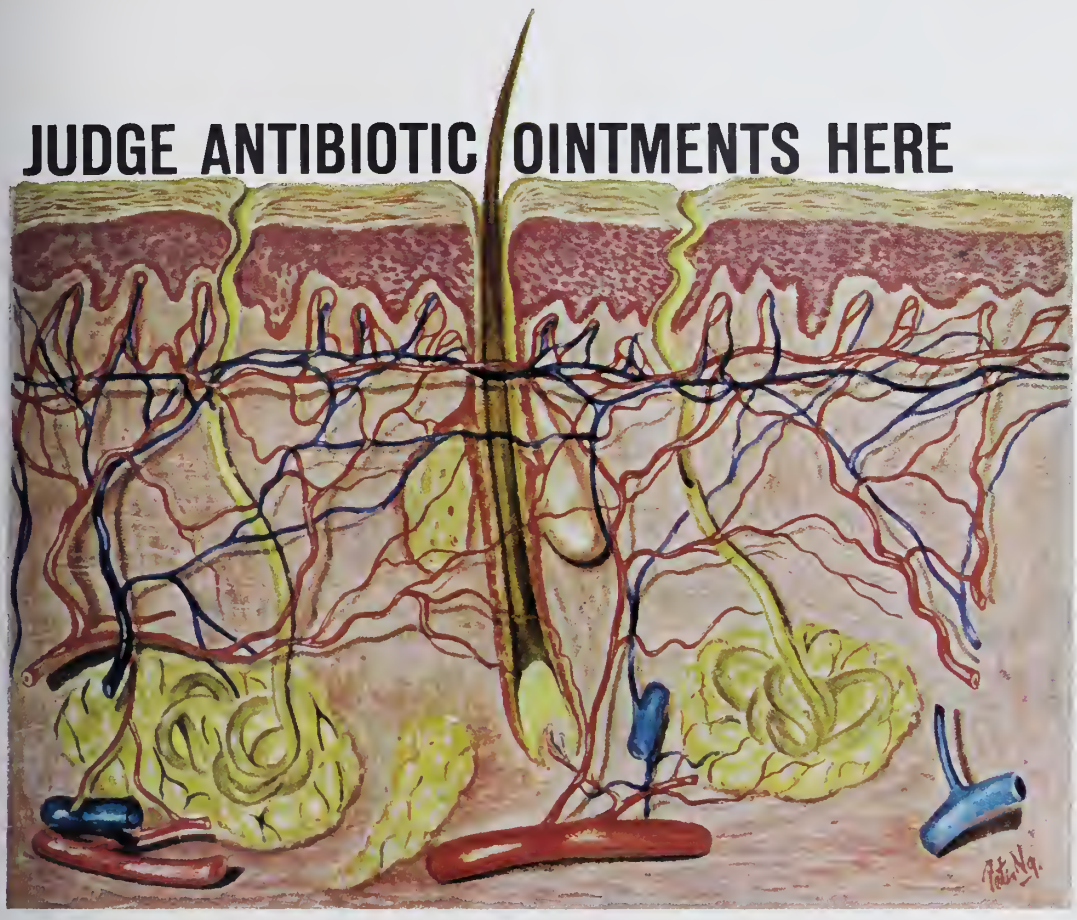
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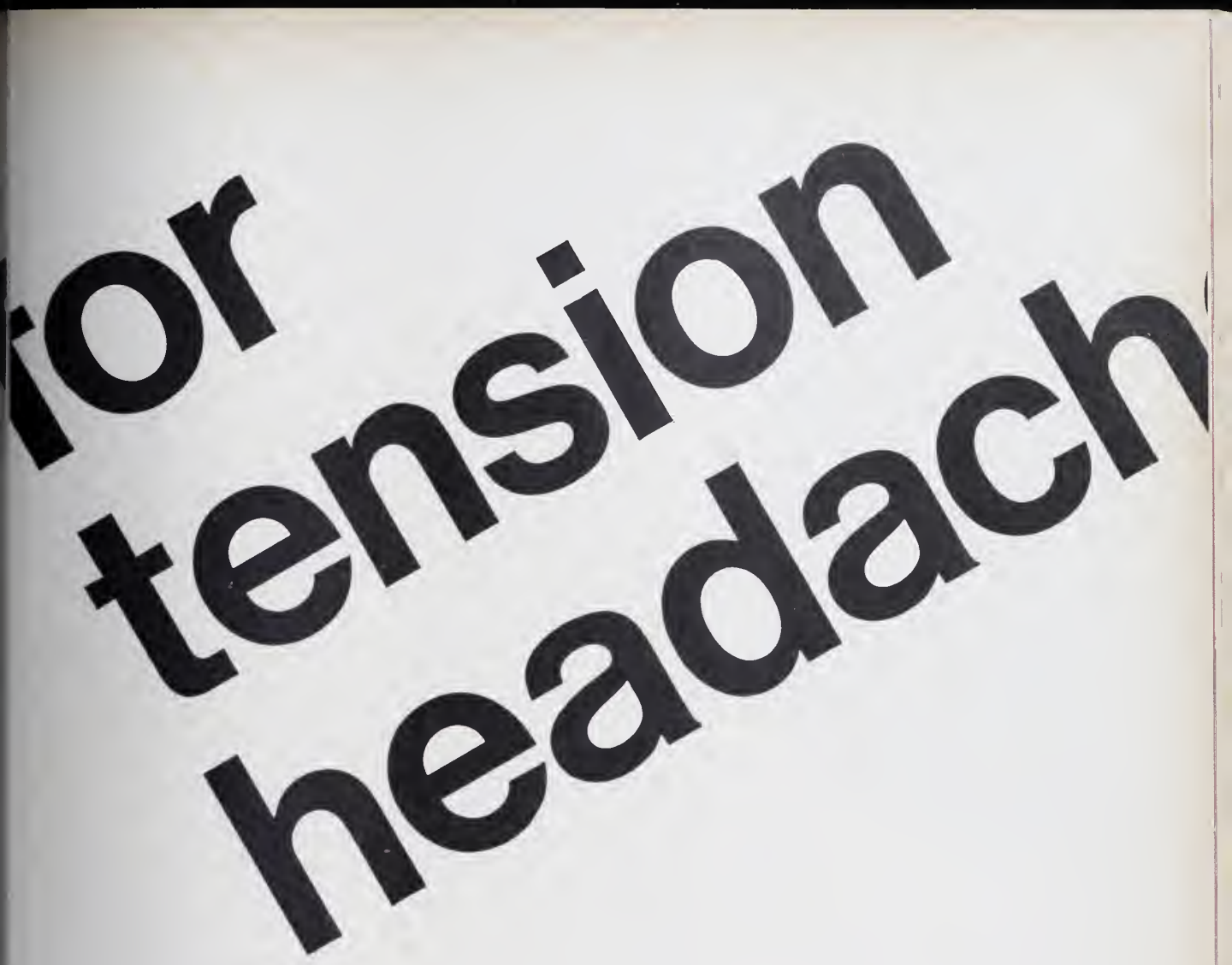
a new formulation that relieves pain in tension headache and neuralgia

Dialog is a combination of 15 mg allobarbital and 300 mg acetaminophen. Allobarbital, a proven barbiturate, provides desirable sedation in patients experiencing pain and discomfort. Acetaminophen is a nonsalicylate analgesic-antipyretic, well tolerated and useful in a wide range of mildly painful and febrile conditions.

Dialog is well tolerated, even by those sensitive to aspirin. It is nonirritating to the gastrointestinal tract and, in recommended dosage, has no adverse effects on the kidneys.

- Raises the pain threshold
- Suppresses the pain-producing mechanism
- Reduces emotional tension

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(allobarbital and acetaminophen CIBA)

Indications: For relief of pain and discomfort of simple headache; neuralgia, myalgia, and musculoskeletal pain; dysmenorrhea; bursitis; sinusitis; fibrositis. Also indicated to reduce fever and to relieve discomfort due to respiratory infections, influenza, and other febrile conditions.

Contraindication: Not recommended during pregnancy.

Caution: May be habit-forming. Do not use in patients sensitive to barbiturates or in those with moderate to severe hepatic disease.

Side Effects: Nausea, transitory dizziness, rash. Overdosage of allobarbital produces symptoms typical of acute barbiturate excess.

Dosage: *Adults:* 1 or 2 tablets every 4 hours. Not to exceed 8 tablets in 24 hours. *Children 6 to 12:* ½ to 1 tablet every 4 hours. Not to exceed 4 tablets in 24 hours.

Supplied: *Tablets* (white, scored), each containing 15 mg allobarbital and 300 mg acetaminophen; units of 3 bottles of 30.

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CIBA



The "Socio-geographic" mystery

Why is one man's gastric ulcer another man's duodenal?



Geographic variation in the *incidence* of peptic ulcer is a familiar fact. But the proclivity of certain *kinds* of ulcer for certain geographic areas is a recently recognized phenomenon.[1,2]

For example, in one particular Norwegian fishing village there is a tendency for patients to develop a gastric ulcer; anywhere else in Norway, ulcers are usually duodenal. Peruvians high in the Andes have more gastric ulcers than their compatriots in the lowlands. Why? Nobody knows.

Social variations, too. Even in the same geographic areas there are interesting variations. An Englishman's ulcer depends on his social standing—professional men suffer with duodenal ulcers, while workingmen have more of the gastric variety. In southern India the pattern is reversed. Here, duodenal ulcers are common among laborers and agricultural workers and rare among the upper classes.

Investigators are exploring every possible theoretical avenue in their search for the cause of peptic ulcer. Of all the factors implicated in ulcerogenesis, the one that is generally acknowledged to be of primary importance is hypersecretion of gastric acid.[3-8] Or, as one author states it: "The medical management of peptic ulcer pharmacologically is, in the final analysis, concerned largely with the effective inhibition of peptic activity."[3]

Robinul (glycopyrrolate) provides potent, rapid, specific antisecretory action confirmed by gastric analyses and x-ray evidence of clinical effectiveness.[3,7,9-12] Relieves pain with "impressive" promptness.[8] Quickly alleviates acute discomfort, and effectively counteracts gnawing pain, preprandial midepigastric pain, belching and other ulcer symptoms.[7] Suppression of nocturnal pain is "outstanding."[13] Maximally effective doses may be given with minimal side reactions, and the incidence of unwanted anticholinergic effects is negligible.[3,7-14]

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promotes the essential ulcer-healing environment

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(brief summary follows)

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Precautions: Administer with caution in the presence of incipient glaucoma.
Adverse Reactions: Dryness of the mouth, blurred vision, urinary difficulties, and constipation are rarely troublesome and may generally be controlled by reduction of dosage. Other side effects associated with the use of anticholinergic drugs include tachycardia, palpitation, dilatation of the pupil, increased ocular tension, weakness, nausea, vomiting, headache, dizziness, drowsiness, and rash.
Dosage: Dosage should be adjusted according to individual patient response. Average and maximum recommended dose is 1 tablet 3 times a day: in the a.m., early p.m., and at bedtime. *See product literature for full prescribing information.*
Supply: Robinul (glycopyrrolate 1 mg.); Robinul Forte (glycopyrrolate 2 mg.); Robinul-PH (glycopyrrolate 1 mg.) with phenobarbital 16.2 mg. (Warning: May be habit-forming); Robinul-PH Forte (glycopyrrolate 2 mg.) with phenobarbital 16.2 mg. (Warning: May be habit-forming.) In bottles of 100 and 500 scored tablets.
References: **1.** Jones, F. A., and Gummer, J. W. P.: Clinical gastroenterology, Springfield, Ill., Charles C Thomas, 1960, pp. 322-3. **2.** Bockus, H. L.: Gastroenterology, 2nd ed., vol. I, Philadelphia, Saunders, 1963, p. 468. **3.** Sun, D. C. H.: Ann NY Acad Sci 99:153 (Feb. 28) 1962. **4.** Moore, V. A.: Postgrad Med 38:216 (Sept.) 1965. **5.** Dragstedt, L. R., Woodward, E. R., Storer, E. H., Oberhelman, H. A., Jr., and Smith, C. A.: Ann Surg 132:626 (Oct.) 1950. **6.** Posey, E. L., Jr., Smith, P., Turner, C., and Aldridge, J.: Amer J Dig Dis 10:399 (May) 1965. **7.** Lamphier, T. A., Siegel, L., and Goldberg, R. I.: Amer J Gastroent 37:551 (May) 1962. **8.** Kasich, A. M., and Fein, H. D.: Ibid 39:61 (Jan.) 1963. **9.** Epstein, J. H.: Ibid 37:295 (Mar.) 1962. **10.** Moeller, H. C.: Ann NY Acad Sci 99:158 (Feb. 28) 1962. **11.** Slanger, A.: J New Drugs 2:215 (Jul.-Aug.) 1962. **12.** Barman, M. L., and Larson, R. K.: Amer J Med Sci 246:325 (Sept.) 1963. **13.** Shutkin, M. W.: Amer J Gastroent 38:682 (Dec.) 1962. **14.** Fleshler, B.: J New Drugs 2:211 (Jul.-Aug.) 1962. **A. H. ROBINS CO., INC.**
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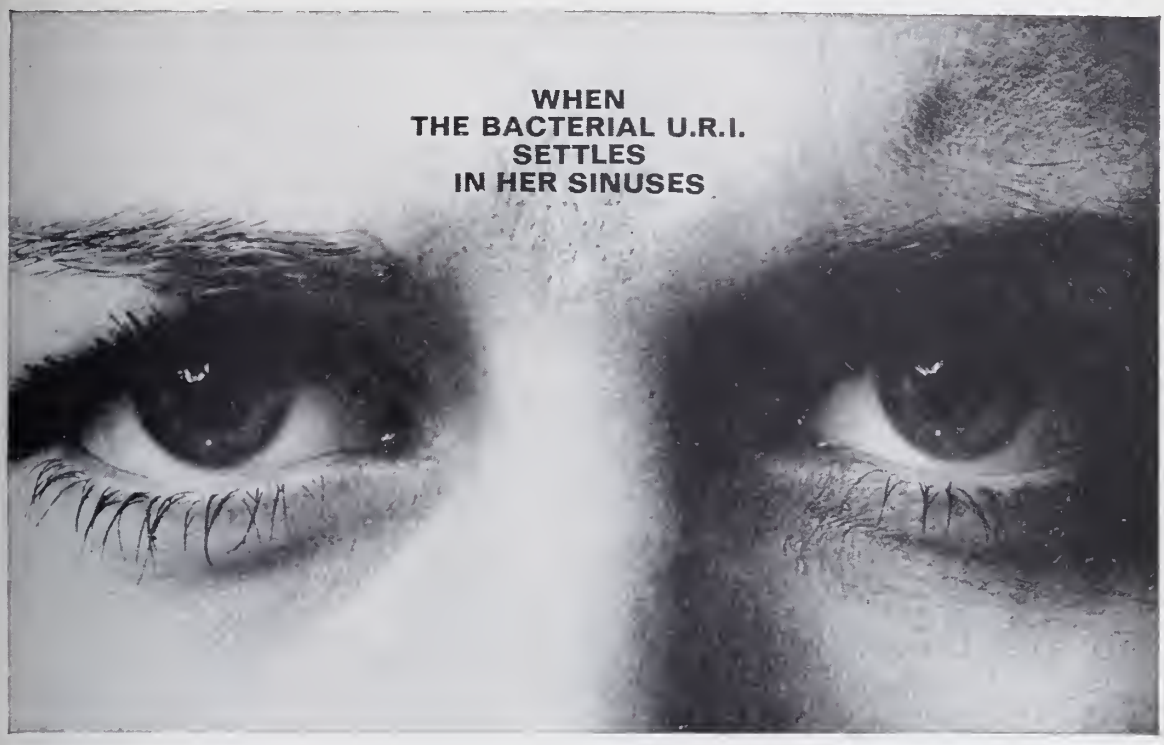
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Precautions—Some individuals may experience drowsiness, anorexia, and slight gastric distress. If excessive drowsiness occurs, it may be necessary to increase the interval between doses. Persons on full dosage should not operate any vehicle. Use may result in overgrowth of nonsusceptible organisms. If infections appear during therapy, appropriate measures should be taken. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Infections caused by beta-hemolytic streptococci should be treated for at least 10 full days to help prevent rheumatic fever or acute glomerulonephritis. Use of tetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect has been observed in usual short treatment courses.

Average adult dosage: 2 tablets four times daily, given at least one hour before, or two hours after meals.

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When headache, fever, pain, malaise accompany bacterial URI

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arks, V., and Dawson, A.: it. M. J. *1*:293, 1965.

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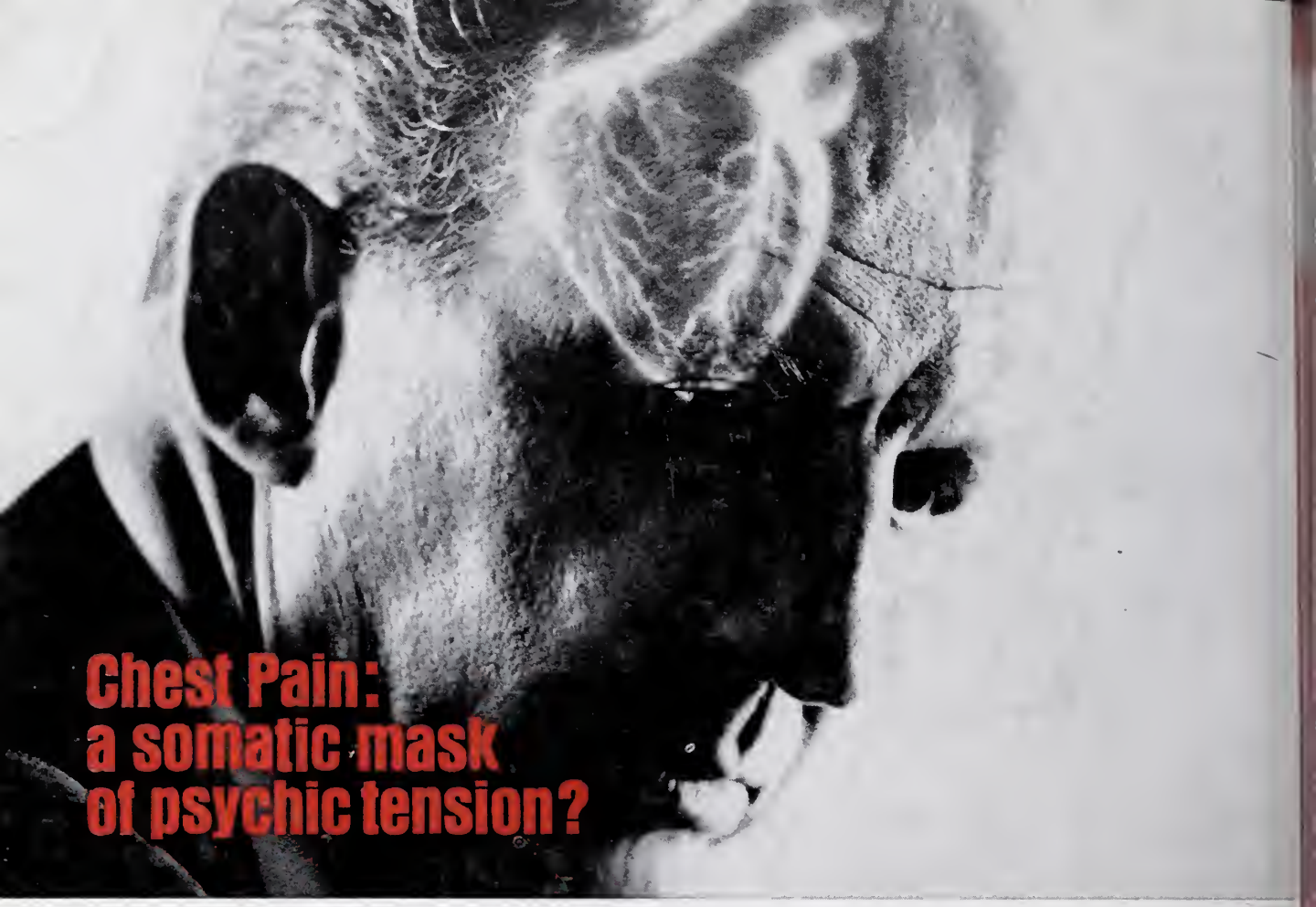
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Chest Pain: a somatic mask of psychic tension?

"Heart symptoms"—chest pain, tachycardia, arrhythmia—invariably alarm and preoccupy the patient, though they may be completely without organic basis. Such symptoms often are somatic masks of psychic tension, arising from constant encounters with stressful situations.

When the problem is diagnosed as emotionally produced, consider Valium (diazepam) as adjunctive therapy. Valium (diazepam) acts rapidly to calm the patient, to reduce his psychic tension and relieve associated cardiovascular complaints.

NEUROTIC FATIGUE—the chronic tiredness resulting from emotional strain which so often accompanies psychogenic "heart" symptoms—also can be alleviated by this highly useful agent. Valium (diazepam) often achieves results where other psychotherapeutic agents have failed.

Valium (diazepam) is generally well tolerated, and usually does not impair mental acuity or ability to function. If side effects such as ataxia and drowsiness occur, they usually disappear with dosage adjustment.

Contraindications: Infants, patients with history of convulsive disorders or glaucoma.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazardous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances and hallucinations) and changes in EEG patterns. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

Dosage — Adults: Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hrs, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. Geriatric patients: 1 or 2 mg/day initially, increase gradually as needed.

Supplied: Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 for convenience and economy in prescribing.

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for somatic symptoms of psychic tension

2-mg, 5-mg, 10-mg tablets

Valium®
(diazepam)

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NOVEMBER, 1966

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

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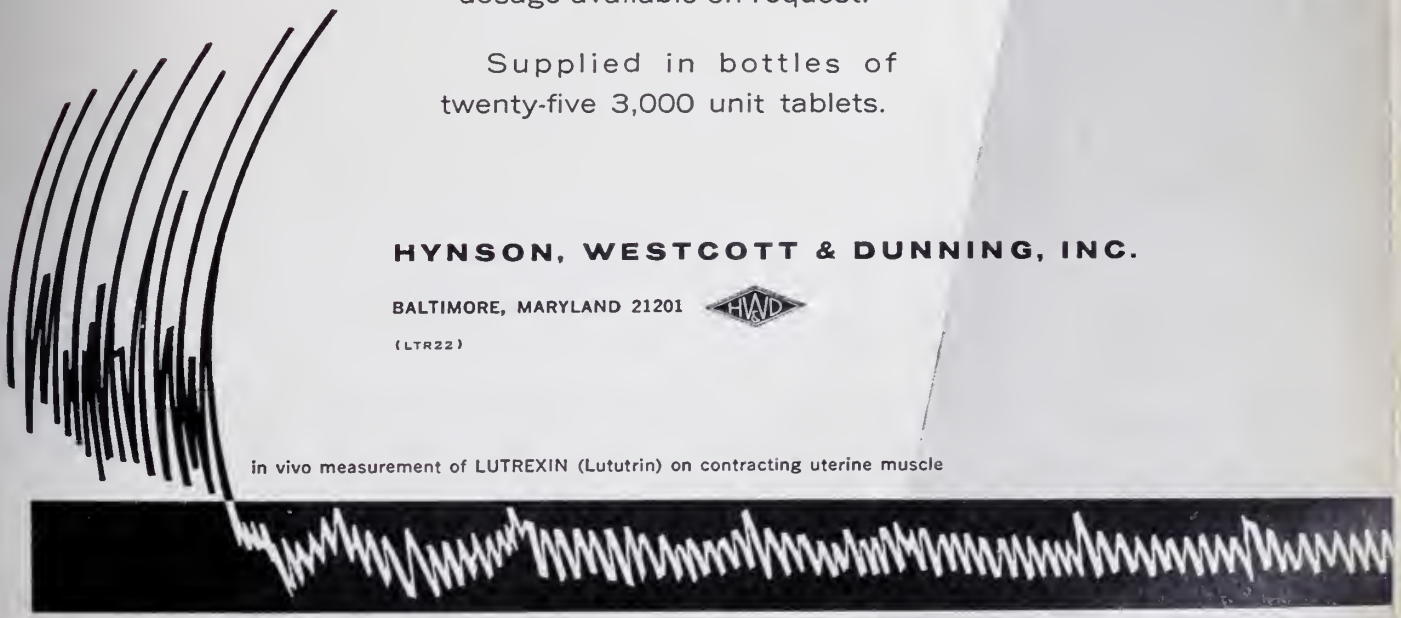
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Diagnosis:

cystitis?
pyelonephritis?
pyelitis?
urethritis?
prostatitis?

in any case,
usually gram-negative*

Therapy:

two 500 mg. Caplets® q.i.d.
(initial adult dose)

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Brand of

nalidixic acid

a specific anti-gram-negative

eradicates most urinary tract infections...

- Low incidence of untoward effects; no fungal overgrowth, crystalluria, ototoxic or nephrotoxic effects have been observed.

- "Excellent" or "good" response reported *in more than 2 out of 3* patients with either chronic or acute gram-negative infections.[1]

*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: E. coli, Klebsiella, Aerobacter, Proteus, Paracolon or Pseudomonas[2]... However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

Indications: Urinary tract infections caused by gram-negative and some gram-positive organisms.

Side effects: Mainly mild, transient gastrointestinal disturbances; in occasional instances, drowsiness, fatigue, pruritus, rash, urticaria, mild eosinophilia, reversible subjective visual disturbances (overbrightness of lights, change in visual color perception, difficulty in focusing, decrease in visual acuity and double vision), and reversible photosensitivity reactions. Marked overdosage, coupled with certain predisposing factors, has produced brief convulsions in a few patients.

Precautions: As with all new drugs, blood and liver function tests are advisable during prolonged treatment. **Pending further experience, like most chemotherapeutic agents, this drug should not be given in the first trimester of pregnancy. It must be used cautiously in patients with liver disease or severe impairment of kidney function.** Because photosensitivity reactions have occurred in a small number of cases, patients should be cautioned to avoid unnecessary exposure to direct sunlight while receiving NegGram, and if a reaction occurs, therapy should be discontinued. The dosage recommended for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Bacterial resistance may develop.

When testing the urine for glucose in patients receiving NegGram, Clinistix® Reagent Strips or Tes-Tape® should be used since other reagents give a false-positive reaction.

Dosage: Adults: Four Gm. daily by mouth (2 Caplets® of 500 mg. four times daily) for one to two weeks. Thereafter, if prolonged treatment is indicated, the dosage may be reduced to two Gm. daily. Children may be given approximately 25 *mg. per* pound of body weight per day, administered in divided doses. The dosage recommended above for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Until further experience is gained, infants under 1 month should not be treated with the drug.

How supplied: Buff-colored, scored Caplets® of 500 mg. for adults, conveniently available in bottles of 56 (sufficient for one full week of therapy) and in bottles of 1000. 250 mg. for children, available in bottles of 56 and 1000.

References: (1) Based on 23 clinical papers, 1512 cases. Bibliography on request. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.: Antimicrobial Agents and Chemotherapy—1964, Ann Arbor, American Society for Microbiology, 1965, p. 722.

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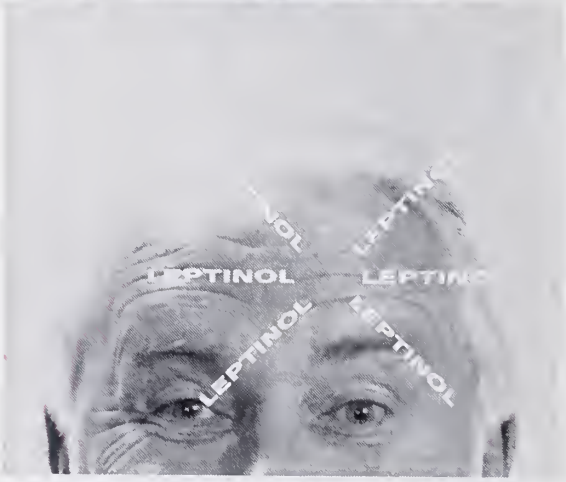
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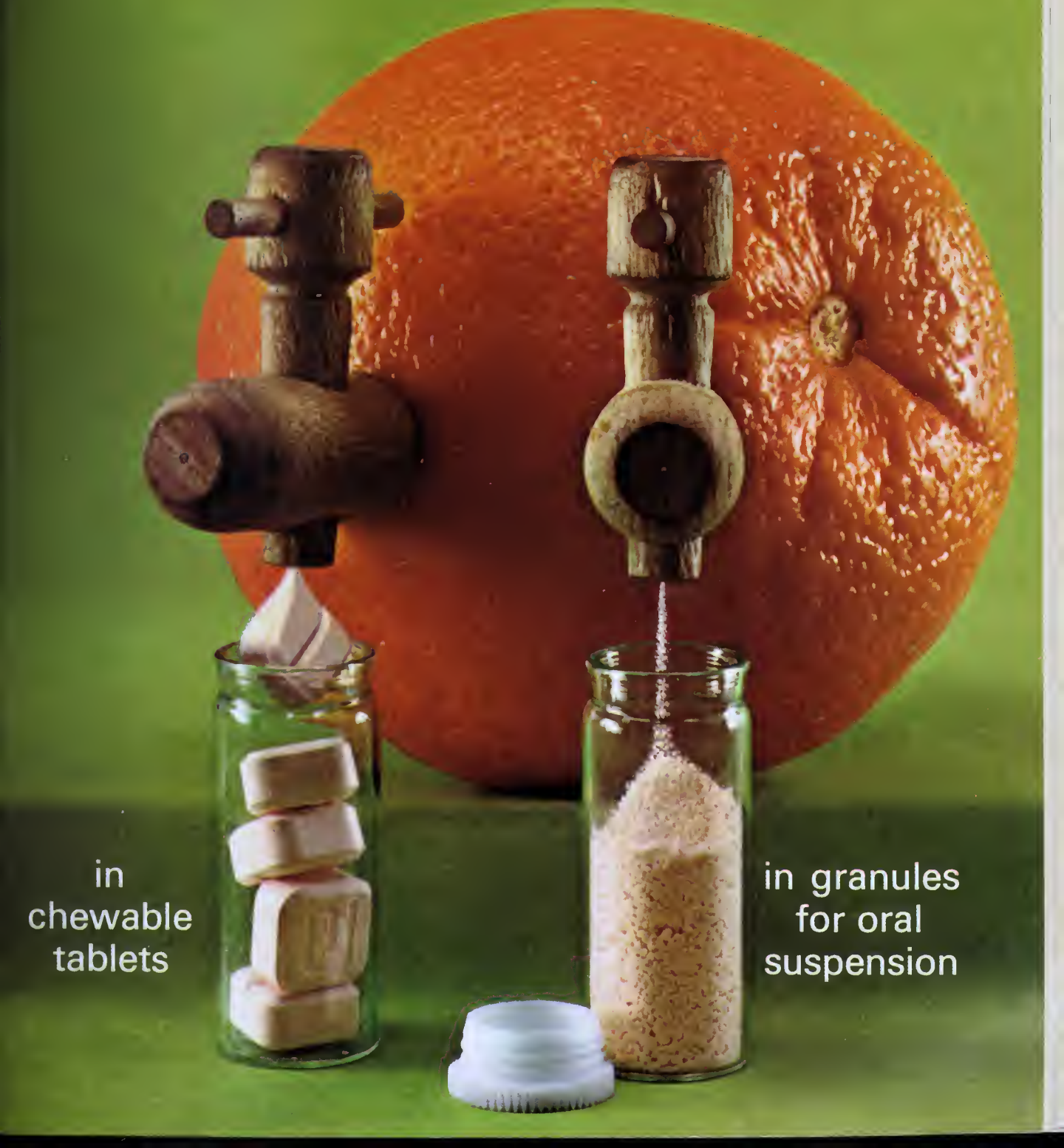
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Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions: Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

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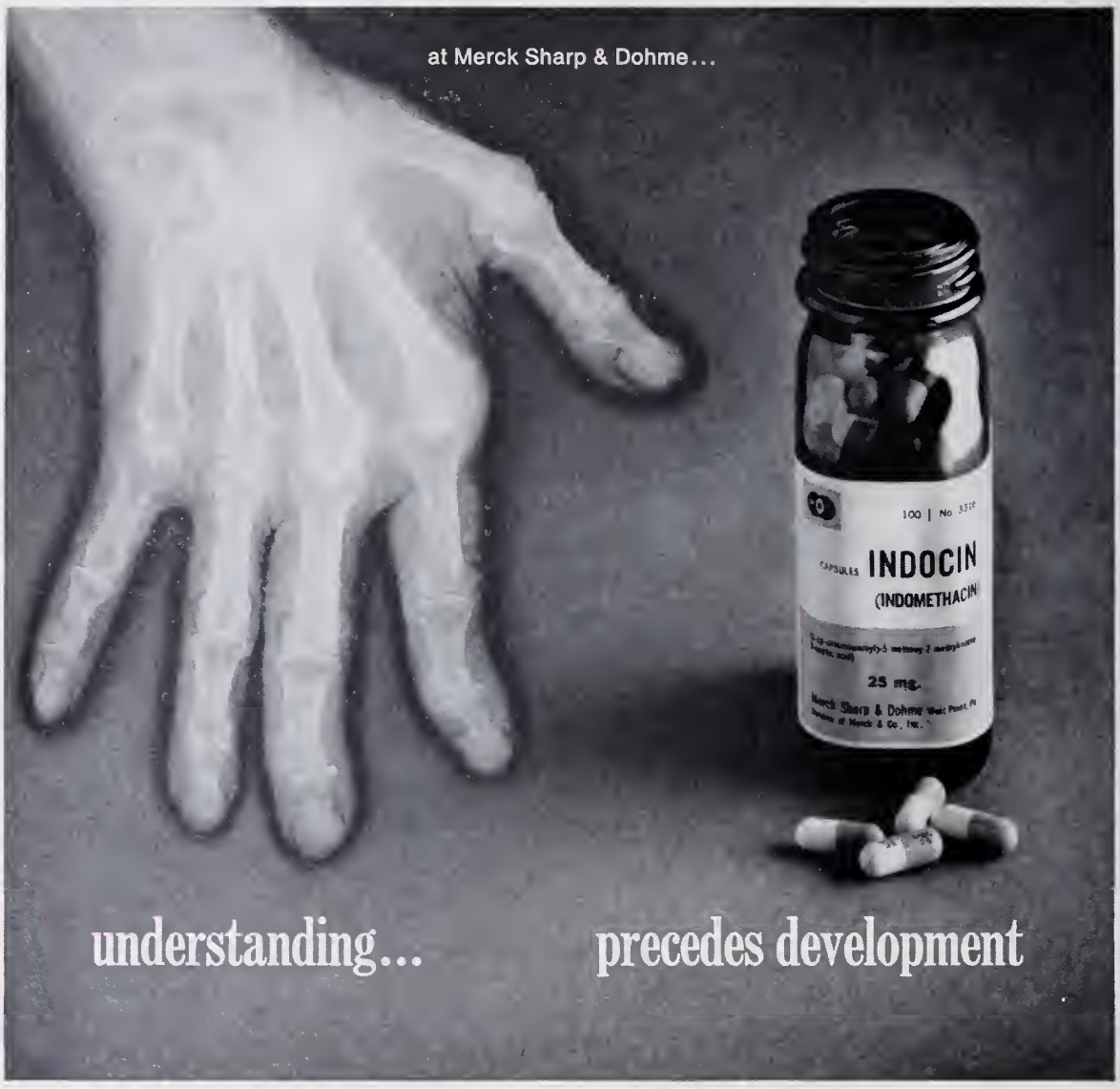
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Precautions and Adverse Reactions: Most commonly, headache, dizziness, lightheadedness, G.I. disturbances. The C.N.S. effects are often transient and frequently disappear with continued treatment or reduced dosage. The severity of these effects may occasionally require cessation of therapy. G.I. effects may be minimized by giving the drug with food or with antacids or immediately after meals. Ulceration of the stomach, duodenum, or small intestine has been reported and, in a few instances, severe bleeding with perforation and death. Gastrointestinal bleeding with no obvious ulcer formation has also been noted; INDOCIN should be discontinued if G.I. bleeding occurs. As a result of G.I. bleeding, some patients may manifest anemia, and for this reason periodic hemoglobin determinations are recommended. Rare reports of effects not definitely known to be attributable to INDOCIN include bleeding from the sigmoid colon (either from a diverticulum or without a known previous pathologic condition), perforation of preexisting sigmoid lesions (diverticulum, carcinoma), and hematuria. In other rare cases, a diagnosis of gastritis has been made while the drug was being given. One patient developed ulcerative colitis, and another, regional ileitis, while receiving INDOCIN; when the drug was given to patients with preexisting ulcerative colitis, there was an increase in abdominal pain. Infrequently observed side effects may include drowsiness, tinnitus, mental confusion, depression and other psychic disturbances, blurred vision, stomatitis, pruritus, edema, and hypersensitivity reactions. Slight BUN elevation, usually transient, has been seen in some patients, although the preponderance of evidence indicates that INDOCIN does not adversely affect renal function, even in patients with preexisting renal disease. Nevertheless, renal function should be checked periodically in patients on long-term therapy. Leukopenia has been seen in a few patients. Transient elevations in alkaline phosphatase, cephalin-cholesterol flocculation, and thymol turbidity tests have been observed in some patients and, rarely, elevations of SGOT values; the relationship of these changes to the drug, if any, has not been established. As with any new drug, patients should be followed carefully to detect unusual manifestations of drug sensitivity.
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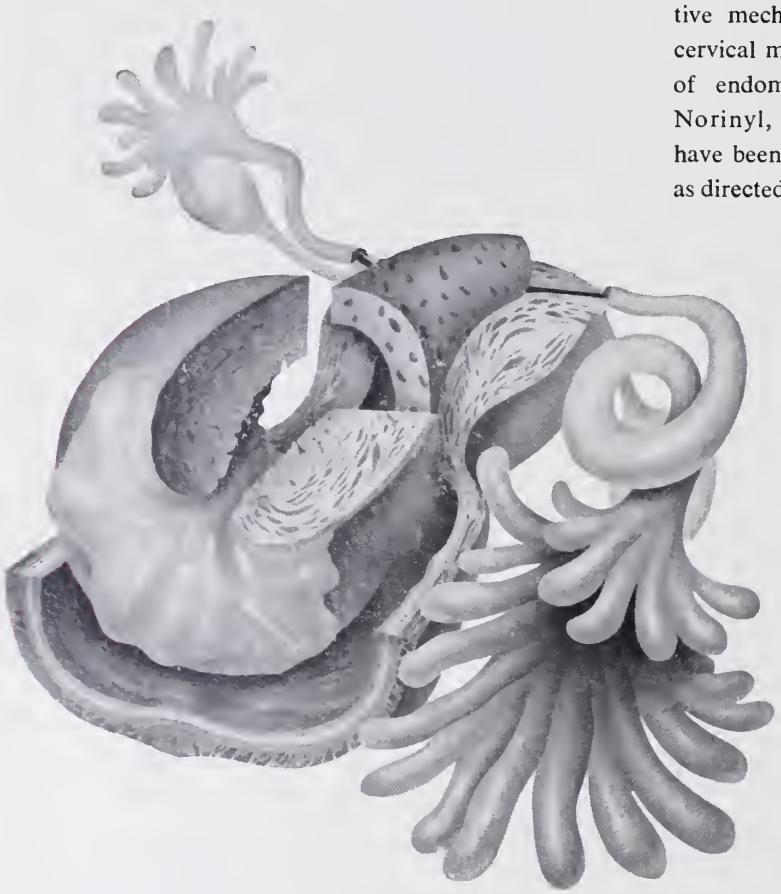
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Norinyl provides multiple action for maximum assurance of success. It does not depend on ovulation inhibition alone for contraceptive effectiveness. The mechanism of action of combined hormonal therapy results in ovulation inhibition reinforced by other protective mechanisms, including a hostile cervical mucus[1-13] and an acceleration of endometrial changes.[1-3,7-16] With Norinyl, no unplanned pregnancies have been reported to date when used as directed.

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An unbreakable "confusionproof" package makes it easy to adhere to prescribed dosage schedule: individually sealed tablets numbered from 1 through 20 *plus* monthly calendar record enables patient to double-check dosage intake by day and corresponding tablet number.



Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.–mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.

Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs: JAMA 187:664 (Feb. 29) 1964. 2. Brauer, F. E.: Canad. Med. Ass. J. 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med. Clin. N. Amer. 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med. Sci. 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil. Steril. 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil. Steril. 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N. Carolina Med. J. 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl. Ther. 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merrill, R. I.: Appl. Ther. 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med. Sci. 16:26 (Nov.) 1965.

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vignettes of angina pectoris—
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angina and the surgeon

John Hunter—
British surgeon (1728-1793)

angina of anger

"My life is in the hands of any rascal who chooses to annoy and tease me."[1] So said the great British surgeon and anatomist, John Hunter, realizing that he could not control the anger which precipitated frequent and severe attacks of angina pectoris. According to Mettler: "His statement was no exaggeration. On October 16, 1793, he attended a meeting of the St. George's hospital staff, and, while defending the interests of several students, he was contradicted and thoroughly antagonized. The pains of angina commenced, he started toward another room, gained it, and fell dying into the arms of a physician."[2]

Why Edward Jenner withheld his paper on angina In 1777, at an earlier stage of the condition, Hunter's angina alarmed a favorite pupil, Edward Jenner, who wrote to Dr. Heberden that he feared his teacher was "affected with symptoms of the Angina Pectoris."[3] So concerned was Jenner about his former teacher's emotion-related condition that he deliberately cancelled publication of a paper on angina pectoris, fearing that Hunter would read it, and have "his fears excited by its truly formidable nature."[4]



Severity of angina described Hunter's brother-in-law, Dr. Everard Home, who witnessed his death and performed an autopsy, gave this account of the later stages of the condition:

"... the pain became excruciating at the apex of the heart; the throat was so sore as not to allow of an attempt to swallow anything and the left arm could not bear to be touched....

"The affections above described were, in the beginning, readily brought on by exercise ... but they at last seized him when lying in bed, and in his sleep...."[5]



18th century ancestor of the modern coronary candidate Surgeon, anatomist, pathologist, physiologist, geologist, and teacher, Hunter had a passion for research which led him to disregard his practice, his health and even the

law. When the Irish giant O'Brien learned that Hunter desired his skeleton for a museum, he willed that his body be sunk at sea in a lead coffin. But Hunter was not to be denied. According to Major, he "... bribed the watchers and finally obtained the body at a cost of 500 pounds although he had to borrow the money to pay the men."[3]

In 1767, he experimentally inoculated himself with gonorrhea and syphilis, treated himself with mercury for three years, and was apparently cured.[5] Hunter had feelings of inadequacy about his education and speaking ability, but this did not prevent him from being hard driving and abrupt with his colleagues. His competitiveness with his physician older brother was also well known, and ended in complete estrangement between the two men.[2,3] Today, the personality traits seen in John Hunter are recognized to be important predisposing factors in the development of coronary artery disease—often manifested as angina pectoris. According to Friedman and Rosenman,[6] in a group of men whose behavior was characterized by intense ambition and competitive drive, a greater than average incidence of angina pectoris was among those abnormal conditions noted.

References: 1. Paget, S., cited by Mettler, C. A.: History of Medicine, Philadelphia, The Blakiston Company, 1947, p. 85. 2. Mettler, C. A.: *Op. cit.*, pp. 84-85. 3. Major, R. H.: A History of Medicine, Springfield, Ill., Charles C Thomas, 1954, vol. 2, pp. 601-607. 4. Baron, J., cited by Major, R. H.: *Op. cit.*, p. 607. 5. Major, R. H.: Classic Descriptions of Disease, ed. 3, Springfield, Ill., Charles C Thomas, 1955, p. 423. 6. Friedman, M., and Rosenman, R. H.: J.A.M.A. *169*:1286, 1959.

in the modern management of angina pectoris

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(20 mg. in immediate release layer and 60 mg. in sustained release base)

Peritrate (pentaerythritol tetranitrate) is a nitric acid ester of a tetrahydric alcohol (pentaerythritol).

Actions: The exact cause of angina pectoris (that is, the pain associated with coronary artery disease) remains obscure, despite the numerous and often conflicting hypotheses concerning its pathophysiology. Therapy at the present time, therefore, remains essentially empiric. Customarily, clinical improvement has been measured by: reduction in (1) number, intensity and duration of angina pectoris attacks and (2) necessity for glyceryl trinitrate intake for prevention or relief of anginal attacks.

Peritrate SA Sustained Action (pentaerythritol tetranitrate) 80 mg. has been reported in clinical usage to reduce in number and severity the incidence of angina pectoris attacks, with concomitant reduction in glyceryl trinitrate intake.

In the evaluation of Peritrate (pentaerythritol tetranitrate) and Peritrate SA Sustained Action (pentaerythritol tetranitrate) 80 mg. in angina pectoris, clinical improvement has been customarily measured subjectively by reduction in number and severity of attacks and necessity for glyceryl trinitrate intake for prevention or abortion of anginal attacks. Individual patterns of angina pectoris differ widely as does the symptomatic response to antianginal agents such as pentaerythritol tetranitrate. The published literature contains both favorable and unfavorable clinical reports. In conjunction with total management of the patient with angina pectoris, Peritrate (pentaerythritol tetranitrate) and Peritrate SA Sustained Action (pentaerythritol tetranitrate) 80 mg. have been accepted as safe for prolonged administration and widely regarded as useful.

Animal pharmacology: In a series of carefully designed studies in pigs, Peritrate (pentaerythritol tetranitrate) was administered for 48 hours before an artificially induced occlusion of a major artery and for seven days thereafter. The pigs were sacrificed at various intervals for periods up to six weeks. The result showed a significantly larger number of survivors in the drug-treated group. Damage to myocardial tissue in the drug-treated survivors was less extensive than in the untreated group. Pigs rather than dogs were used because their coronary artery distribution more closely resembles that of human beings. Studies in dogs subject to oligemic shock through progressive bleeding have demonstrated that Peritrate (pentaerythritol tetranitrate) is vasoactive at the postarteriolar level, producing increased blood flow and better tissue perfusion. These animal experiments cannot be translated to human behavior

Indications: Peritrate SA Sustained Action (pentaerythritol tetranitrate) 80 mg. is indicated for the relief of angina pectoris (pain associated with coronary artery disease). It is not intended to abort the acute anginal episode but is widely regarded as useful in the prophylactic treatment of angina pectoris.

Contraindications: Peritrate SA Sustained Action (pentaerythritol tetranitrate) 80 mg. is contraindicated in patients who have a history of sensitivity to the drug.

Warning: Data supporting the use of Peritrate (pentaerythritol tetranitrate) during the early days of the acute phase of myocardial infarction (the period during which clinical and laboratory findings are unstable) are insufficient to establish safety.

Precautions: Should be used with caution in patients who have glaucoma.

Adverse reactions: Side effects reported to date have been predominantly related to headache (which may require discontinuation of medication) and gastrointestinal distress which are usually transient with continuation of medication.

Dosage: Peritrate SA Sustained Action (pentaerythritol tetranitrate) 80 mg., 1 tablet immediately on arising and 1 tablet 12 hours later (on an empty stomach).

Additional dosage forms
Peritrate (pentaerythritol tetranitrate)—10 mg. and 20 mg. tablets with or without phenobarbital.

Peritrate with Phenobarbital SA Sustained Action—80 mg. pentaerythritol tetranitrate and 45 mg. phenobarbital.

(**Warning:** Tablets containing phenobarbital may be habit forming.)

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this part for diarrhea

Kaolin exerts a demulcent action along the gastrointestinal tract and a detoxifying action in the intestines to diminish irritation of the mucosa and lessen hyperperistalsis, nausea and diarrhea.

Pectin exerts its demulcent effect in the entire tract and its detoxifying action primarily in the large bowel to diminish irritation of the mucosa and help restore normal intestinal flora and function.

this part for its discomforts

Belladonna alkaloids as in Donnatal® relieve hypermotility of smooth muscle in the gastrointestinal tract to help control cramping, nausea, and painful straining. Many clinicians consider the belladonna components of Donnagel® to be medicine's most effective depressants of intestinal motility.[1,2] A preparation containing only kaolin and pectin, on the other hand, has "little or no effect on cramps simply because it does not include an agent with antispasmodic action."[3]

Donnagel® treats the whole diarrhea problem.

Available in new 4-ounce plastic bottle on your prescription or recommendation. Also available: Donnagel®-PG (with paregoric equivalent) and Donnagel® with Neomycin. See product literature before prescribing.

References: 1. Kramer, P., and Ingelfinger, F.J.: Med. Clin. N. Amer., *32*:1227, 1948. 2. Hock, C.W.: Clin. Med., *8*:1932, 1961. 3. Winfield, I.W.: Am. J. Gastroent., *31*:438, 1959.

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in each 5 cc. teaspoonful:

Glyceryl guaiacolate	100 mg.

(Alcohol 3.5%)

ROBITUSSIN® A-C
(exempt narcotic)
in each 5 cc. teaspoonful:

Glyceryl guaiacolate	100 mg.
Pheniramine maleate	7.5 mg.
Codeine phosphate	10.0 mg.

(warning: may be habit forming)
(Alcohol 3.5%)

ROBITUSSIN® -DM
new, non-narcotic
in each 5 cc. teaspoonful:

Glyceryl guaiacolate	100 mg.
Dextromethorphan hydrobromide	15 mg.

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A. H. Robins Company, Inc. Richmond, Va.

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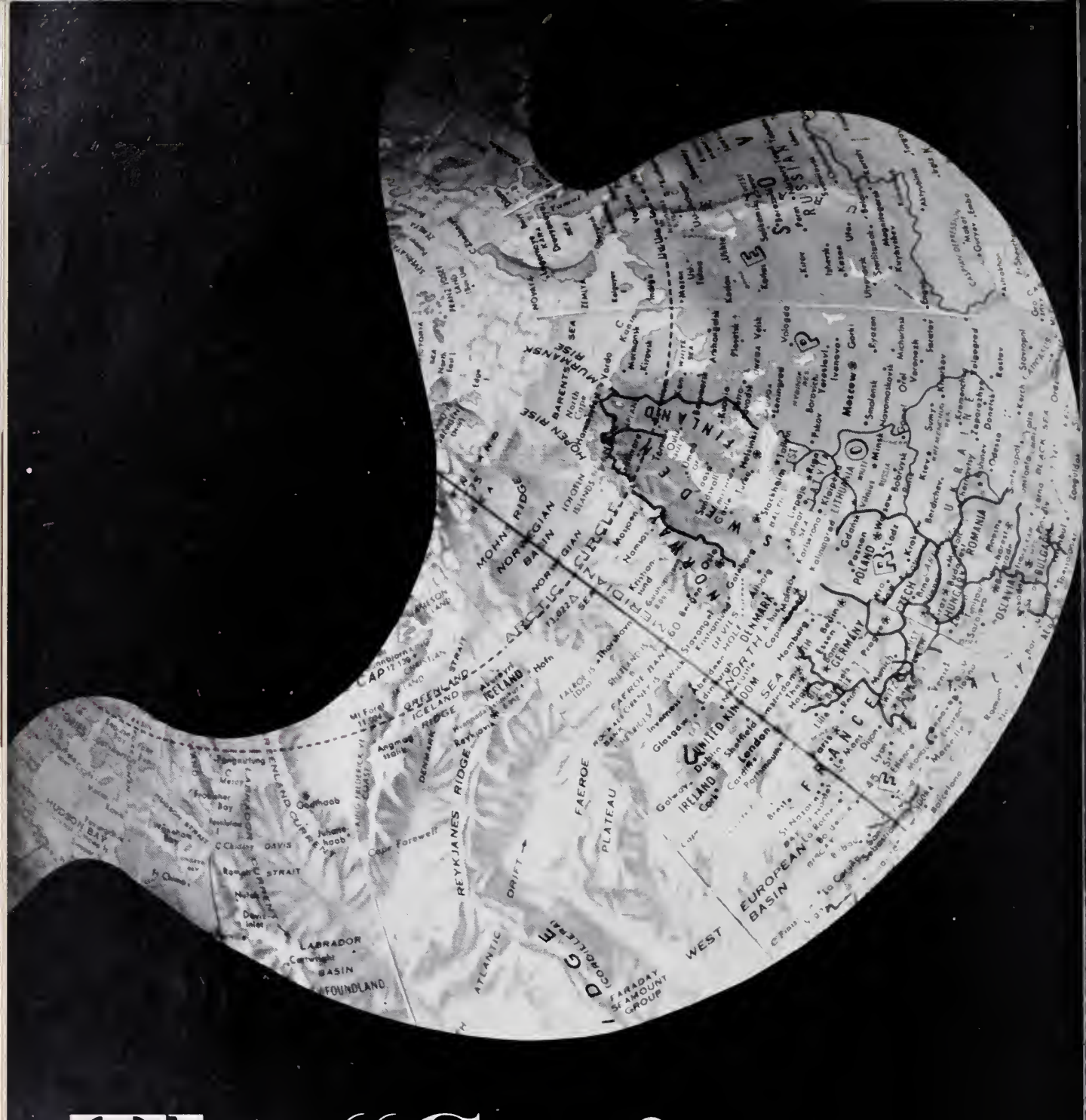
For your anxious patients who must remain active, 'Stelazine' offers a specific, incisive antianxiety effect that can calm excessive anxiety without producing annoying dulling effects. On 'Stelazine' patients react more normally to stresses and at the same time remain alert enough to carry on their normal activities.

Stelazine®

brand of **trifluoperazine**

Before prescribing, the physician should be familiar with the complete prescribing information in SK&F literature or *PDR*. The following is a brief precautionary statement. *Contraindications:* Comatose or greatly depressed states due to C.N.S. depressants and in cases of existing blood dyscrasias, bone marrow depression and liver damage. *Precautions:* Use with caution in angina patients and in patients with impaired cardiovascular systems. Antiemetic effect may mask symptoms of other disorders. An additive depressant effect is possible when used with other C.N.S. depressants. Prolonged administration of high doses may result in accumulative effects with severe C.N.S. or vasomotor symptoms. Use in pregnant patients only when necessary for the patient's welfare. *Side Effects:* Occasional cases of mild drowsiness, dizziness, mild skin reactions, dry mouth, insomnia and amenorrhea. Neuromuscular (extrapyramidal) reactions (motor restlessness, dystonias, pseudo-parkinsonism) may occur and, in rare instances, may persist. In addition, muscular weakness, anorexia, rash, lactation, hypotension, and blurred vision have been observed. Blood dyscrasias and cholestatic jaundice have been extremely rare. For a comprehensive presentation of 'Stelazine' prescribing information and side effects reported with phenothiazine derivatives, please refer to SK&F literature or *PDR*.

Smith Kline & French Laboratories, Philadelphia



The "Socio-geographic" mystery

Why is one man's gastric ulcer another man's duodenal?



Geographic variation in the *incidence* of peptic ulcer is a familiar fact. But the proclivity of certain *kinds* of ulcer for certain geographic areas is a recently recognized phenomenon.[1,2]

For example, in one particular Norwegian fishing village there is a tendency for patients to develop a gastric ulcer; anywhere else in Norway, ulcers are usually duodenal. Peruvians high in the Andes have more gastric ulcers than their compatriots in the lowlands. Why? Nobody knows.

Social variations, too. Even in the same geographic areas there are interesting variations. An Englishman's ulcer depends on his social standing—professional men suffer with duodenal ulcers, while workingmen have more of the gastric variety. In southern India the pattern is reversed. Here, duodenal ulcers are common among laborers and agricultural workers and rare among the upper classes.

Investigators are exploring every possible theoretical avenue in their search for the cause of peptic ulcer. Of all the factors implicated in ulcerogenesis, the one that is generally acknowledged to be of primary importance is hypersecretion of gastric acid.[3-8] Or, as one author states it: "The medical management of peptic ulcer pharmacologically is, in the final analysis, concerned largely with the effective inhibition of peptic activity."[3]

Robinul (glycopyrrolate) provides potent, rapid, specific antisecretory action confirmed by gastric analyses and x-ray evidence of clinical effectiveness.[3,7,9-12] Relieves pain with "impressive" promptness.[8] Quickly alleviates acute discomfort, and effectively counteracts gnawing pain, preprandial midepigastric pain, belching and other ulcer symptoms.[7] Suppression of nocturnal pain is "outstanding."[13] Maximally effective doses may be given with minimal side reactions, and the incidence of unwanted anticholinergic effects is negligible.[3,7-14]

no matter what the ulcer theory...the fact is that

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(glycopyrrolate)
promotes the essential ulcer-healing environment

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(brief summary follows)

R10A66

Robinul®
(glycopyrrolate)
promotes the essential ulcer-healing environment

Indications: In addition to its primary indications for duodenal and gastric ulcer, Robinul (glycopyrrolate) is indicated for other GI conditions that may benefit from anticholinergic therapy. Robinul-PH Forte (glycopyrrolate 2 mg. with phenobarbital) is indicated when these situations are complicated by mild anxiety and tension.
Contraindications: Glaucoma, urinary bladder neck obstruction, pyloric obstruction, stenosis with significant gastric retention, prostatic hypertrophy, duodenal obstruction, cardiospasm (megaesophagus), and achalasia of the esophagus, and in the case of Robinul-PH Forte, sensitivity to phenobarbital.
Precautions: Administer with caution in the presence of incipient glaucoma.
Adverse Reactions: Dryness of the mouth, blurred vision, urinary difficulties, and constipation are rarely troublesome and may generally be controlled by reduction of dosage. Other side effects associated with the use of anticholinergic drugs include tachycardia, palpitation, dilatation of the pupil, increased ocular tension, weakness, nausea, vomiting, headache, dizziness, drowsiness, and rash.
Dosage: Dosage should be adjusted according to individual patient response. Average and maximum recommended dose is 1 tablet 3 times a day: in the a.m., early p.m., and at bedtime. *See product literature for full prescribing information.*
Supply: Robinul (glycopyrrolate 1 mg.); Robinul Forte (glycopyrrolate 2 mg.); Robinul-PH (glycopyrrolate 1 mg.) with phenobarbital 16.2 mg. (Warning: May be habit-forming); Robinul-PH Forte (glycopyrrolate 2 mg.) with phenobarbital 16.2 mg. (Warning: May be habit-forming.) In bottles of 100 and 500 scored tablets.
References: **1.** Jones, F. A., and Gummer, J. W. P.: Clinical gastroenterology, Springfield, Ill., Charles C Thomas, 1960, pp. 322-3. **2.** Bockus, H. L.: Gastroenterology, 2nd ed., vol. I, Philadelphia, Saunders, 1963, p. 468. **3.** Sun, D. C. H.: Ann NY Acad Sci 99:153 (Feb. 28) 1962. **4.** Moore, V. A.: Postgrad Med 38:216 (Sept.) 1965. **5.** Dragstedt, L. R., Woodward, E. R., Storer, E. H., Oberhelman, H. A., Jr., and Smith, C. A.: Ann Surg 132:626 (Oct.) 1950. **6.** Posey, E. L., Jr., Smith, P., Turner, C., and Aldridge, J.: Amer J Dig Dis 10:399 (May) 1965. **7.** Lamphier, T. A., Siegel, L., and Goldberg, R. I.: Amer J Gastroent 37:551 (May) 1962. **8.** Kasich, A. M., and Fein, H. D.: Ibid 39:61 (Jan.) 1963. **9.** Epstein, J. H.: Ibid 37:295 (Mar.) 1962. **10.** Moeller, H. C.: Ann NY Acad Sci 99:158 (Feb. 28) 1962. **11.** Slanger, A.: J New Drugs 2:215 (Jul.-Aug.) 1962. **12.** Barman, M. L., and Larson, R. K.: Amer J Med Sci 246:325 (Sept.) 1963. **13.** Shutkin, M. W.: Amer J Gastroent 38:682 (Dec.) 1962. **14.** Fleshler, B.: J New Drugs 2:211 (Jul.-Aug.) 1962.

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MOLECULAR REMODELING—

laboratory exercise or clinical necessity?

More than twenty-five years have passed since the discovery of the diuretic activity of sulfanilamide started pharmacologists on a succession of molecular remodelings to find the ideal diuretic.

Diuresis—a sought-after clinical effect from an unwanted side effect

It started in 1937 when a clinician reported that the administration of a sulfonamide was sometimes accompanied by an unexplainable side effect—metabolic acidosis.[1] Three years later the side effect was explained. The sulfonamide radical of sulfanilamide inhibited carbonic anhydrase,[2] the enzyme responsible for converting carbon dioxide and water to hydrogen ions and bicarbonate ions.

Later, other investigators showed by dog experiments that metabolic acidosis probably resulted when the inhibition of carbonic anhydrase upset the exchange of hydrogen and sodium ions, causing increased excretion of sodium as the bicarbonate.[3]

It was twelve long years after the first report of the unexplainable side effect (metabolic acidosis) that it was finally shown that large doses of sulfanilamide administered to edematous patients were indeed capable of promoting diuresis.[4] However, the possibility of toxic effects from its prolonged use and its relatively weak diuretic action made it impractical for clinical use as a diuretic.[5]

Because the inhibition of carbonic anhydrase seemed to be the key to effective diuresis, investigators began to look for more potent enzyme inhibitors—in the hopes that they would be more effective diuretics.

The most important of these early compounds, acetazolamide, enjoyed several years of fairly wide clinical use.

Its carbonic anhydrase inhibitory activity was several hundred times greater than that of sulfanilamide.[6] The increase in inhibitory activity, however, increased not only the excretion of sodium and bicarbonate ions, but also the excretion of potassium.[7] And, like its predecessor, acetazolamide precipitated mild acidosis. Its prolonged use could result in hypokalemic acidosis.[7]

The 'thiazides'—an answer to the metabolic acidosis caused by carbonic anhydrase inhibition

Despite the fact that the sulfonamide group appeared to be responsible for carbonic anhydrase inhibition which in turn appeared to be responsible for diuresis, investigators began to synthesize compounds with structural alterations to the sulfonamide group.

The first major breakthrough came with the synthesis of chlorothiazide. Altering the sulfonamide group did indeed alter the ability of chlorothiazide to inhibit carbonic anhydrase—it was only 1/10th as potent as acetazolamide in inhibiting the enzyme.[8] Despite the drop in inhibitory potency, however, chlorothiazide proved to be an effective diuretic—an observation that led to the conclusion that its diuretic action was due to some mechanism other than its action on carbonic anhydrase.[9, 10]

For effective diuresis, chlorothiazide was administered in daily dosages ranging from 250 to 2000 mg.[11] It increased the excretion of sodium and chloride; and, to a lesser extent, potassium and bicarbonate.[11] The excretion of potassium appeared to be maximal at higher dose levels at which, theoretically, the carbonic anhydrase inhibitory effect is more active.[11] Its prolonged use, therefore, could sometimes result in metabolic hypokalemic, hypochloremic alkalosis.[7]

Naturetin—effective diuresis with more favorable electrolyte balance

Other thiazides followed—with improvements being aimed at two particular areas: 1. attempts to increase diuretic action in relation to the milligram potency of the drug, and 2. attempts at a more favorable sodium/potassium ratio in the urine, i.e., to decrease the excretion of potassium while maintaining the excretion of sodium.[12]

One of these, Naturetin, Squibb Bendroflumethiazide, has made advances on both these points. "By adding a 3-benzyl radical to hydroflumethiazide a rather dramatic reduction in dose range is accomplished. With this drug, effective sodium excretion is obtained with doses between 2.5 and 10 mg., which is a 200 to 1 ratio as compared to chlorothiazide..."[13]

Moreover, due probably to its virtual lack of carbonic anhydrase inhibition, Naturetin (bendroflumethiazide) has been shown to cause less potassium and bicarbonate loss and less alteration in urinary pH than either chlorothiazide or hydrochlorothiazide.

Naturetin is outstandingly effective not only in establishing, but also in maintaining, excretion of retained fluid in edematous patients. And its duration of action is sufficiently prolonged to allow a single daily administration in most patients. Naturetin is also an effective antihypertensive agent.

Contraindications: Severe renal impairment; previous hypersensitivity.

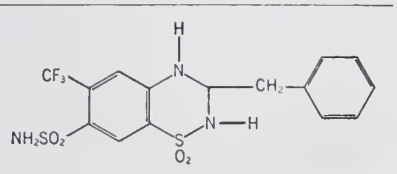
Warning: Ulcerative small bowel lesions have occurred with potassium-containing thiazide preparations or with enteric-coated potassium salts supplementally. Stop medication if abdominal pain, distension, nausea, vomiting, or G.I. bleeding occur.

Precautions: The dosage of ganglionic blocking agents, veratrum, or hydralazine when used concomitantly must be reduced by at least 50% to avoid orthostatic hypotension. Electrolyte disturbances are possible in cirrhotic or digitalized patients.

Side Effects: Bendroflumethiazide may cause increases in serum uric acid, unmask diabetes, increase glycemia and glycosuria in diabetic patients and may cause hypochloremic alkalosis, hypokalemia; cramps, pruritus, paresthesias, and rashes may occur.

Supplied: Naturetin (Squibb Bendroflumethiazide) 5 mg. and 2.5 mg. tablets. Also available Naturetin c K [Squibb Bendroflumethiazide (5 or 2.5 mg.) with Potassium Chloride (500 mg.)]. For full information, see Product Brief.

References: **1.** Southworth, H.: Proc. Soc. Exper. Biol. & Med. *36*:58, 1937. **2.** Mann, T. and Keilin, D.: Nature *146*:164, 1940. **3.** Pitts, R. F., and Alexander, R. S.: Am. J. Physiol. *144*:239, 1945. **4.** Schwartz, W. B.: New England J. Med. *240*:173, 1949. **5.** Friedberg, C. K., in Moyer, J. H., and Fuchs, M.: Edema Mechanisms and Management, Philadelphia, W. B. Saunders Co., 1960, p. 259. **6.** Cumming, J. R.; Tabachnick, E., and Seelig, M., in Moyer, J. H., and Fuchs, M.: op. cit., p. 254. **7.** Werko, L., in Moyer, J. H., and Fuchs, M.: op. cit., p. 188. **8.** Beyer, K. H., Jr., in Moyer, J. H., and Fuchs, M.: op. cit., p. 274. **9.** Maren, T. H., and Wiley, C. E.: J. Pharmacol. & Exper. Therap. *143*:230, 1964. **10.** Earley, L. E., and Orloff, J.: Ann. Rev. Med. *15*:149, 1964. **11.** Fuchs, M., and Mallin, S. R., in Moyer, J. H., and Fuchs, M.: op. cit., p. 276. **12.** Ford, R. V., in Moyer, J. H., and Fuchs, M.: op. cit., p. 290. **13.** cited in Fuchs, M., and Mallin, S. R. (ref. 11): op. cit., p. 283.



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SQUIBB BENDROFLUMETHIAZIDE
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or high blood pressure


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Chances are the symptom recital may prove to be as difficult to control as the cough If it's the useless, exhausting type of cough that often accompanies respiratory infection or allergy, you can provide prompt relief with Novahistine DH. Its decongestant-antitussive action controls frequency and intensity of cough spasms without abolishing cough reflex. And the fresh, grape flavor of Novahistine DH appeals to children and adults alike.

When your diagnosis is bronchitis, complicated by thick tenacious exudates, Novahistine Expectorant is particularly useful. It not only provides decongestive action and controls the cough, but also encourages expectoration, thus easing bronchial obstruction.

Use with caution in patients with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Ambulatory patients should be advised that drowsiness may result. Continuous dosage over an extended period is contraindicated since codeine phosphate may cause addiction.

Each 5 ml. teaspoonful of Novahistine DH contains codeine phosphate, 10 mg. (Warning: may be habit forming); phenylephrine hydrochloride, 10 mg.; chlorpheniramine maleate, 2 mg.; chloroform (approx.), 13.5 mg.; l-menthol, 1 mg. (Alcohol 5%). Each 5 ml. of Novahistine Expectorant contains the above ingredients and, in addition, glyceryl guaiacolate, 100 mg.

NOVAHISTINE® DH

NOVAHISTINE® EXPECTORANT

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Advantage: Both components of Regroton are long-acting.
Average dosage: One tablet daily with breakfast.
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Warning: Discontinue 2 weeks before general anesthesia, 1 week before electroshock therapy, and if depression or peptic ulcer occurs. With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.
Precautions: Reduce dosage of concomitant antihypertensive agents by one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take particular care in cirrhosis or severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended. Use with caution in patients with ulcerative colitis, gallstones, or bronchial asthma.
Side effects: Nausea, vomiting, diarrhea, muscle cramps, headaches and dizziness. Potential side effects include angina pectoris, anxiety, depression, drowsiness, hyperglycemia, hyperuricemia, lassitude, leukopenia, nasal stuffiness, nightmare, purpura, urticaria, and weakness.
For full details, see the complete prescribing information.
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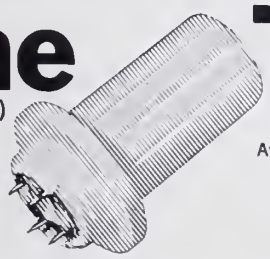
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COMPOSITION: Bronkometer delivers at the mouthpiece 200 metered doses of: 350 mcg isoetharine methanesulfonate (0.6%); 70 mcg phenylephrine HCl (0.125%); and 30 mcg thenyldiamine HCl (0.05%) with saccharin, menthol and fluorochlorohydrocarbons as inert propellants. Preserved with ascorbic acid 0.1% and alcohol 30%.

RECOMMENDED DOSAGE: One or two inhalations with at least one minute between inhalations. Occasionally more may be required, however in most cases, inhalations need not be repeated more than every four hours. Dosage should be adjusted to the severity of the condition and to patient's response.

PRECAUTIONS: Bronkometer is unusually free from cardiovascular and other side effects, but the usual precautions associated with sympathomimetic amines should be observed. Bronkometer should not be administered simultaneously with epinephrine or similar compounds because of the possibility of tachycardia, although it may be alternated with these agents. Dosage must be carefully adjusted in patients with hyperthyroidism, hypertension, acute coronary disease, cardiac asthma, limited cardiac reserve and in individuals sensitive to sympathomimetic amines.

SUPPLIED: 10 ml pressurized aerosol vials complete with measured dose valve and oral nebulizer.

References: 1. Spielman, A. D.: *Curr. Therap. Res.* 3:235 (June) 1961. 2. Herschfus, J. A.; Bresnick, E.; Levinson, L.; and Segal, M. S.: *Ann. Allergy* 9:769 (Nov.-Dec.) 1951.

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Behind continued high blood pressure readings lies the possibility of organic damage[1-13]

MANY OF THE aspects of essential hypertension are unpredictable—either because there are a number of mechanisms involved or because individuals differ in their responses to these mechanisms.[1]

There is one aspect of hypertension, however, that seems, in many cases, predictable. ". . . when the blood pressure is elevated to a marked degree for an adequate period of time, this in itself leads to perpetuation of the syndrome with resulting vascular damage throughout the body."[14] All too often the disease progresses until there is damage to one of three vital organs: the heart, the kidney, the brain.



"Hypertension is certainly a major factor in the genesis of coronary heart disease, and it is even more important when compounded with obesity."[4]

"[Vascular deterioration] can be clearly seen in the kidney with a degree of damage that can be measured by renal function studies."[10]

". . . most evidence suggests that reduction of blood pressure, when it is too high, not only relieves the heart of excess work but reduces vascular damage."[1]

"In short, treatment is indicated."[1]

Antihypertensive therapy will not restore the blood vessels to normal. Yet many of the vascular changes and symptoms caused by increased blood pressure may be arrested or alleviated when the blood pressure is reduced to normotensive levels.[7]

Reducing the blood pressure helps curtail further vascular damage and improves the prognosis — when damage is not too far advanced before therapy is started.[14] Essential hypertension is an indication not only for treatment, but for *early* and adequate treatment of the patient in question.

Reduce the blood pressure with Rautrax-N

Rautrax-N combines the antihypertensive-tranquilizing action of whole root rauwolfia with the antihypertensive-diuretic action of bendroflumethiazide in one convenient medication. The two drugs complement each other so that smaller doses of both are possible.

Rauwolfia combined with bendroflumethiazide is particularly effective in long-term therapy,[15-17] since beneficial effects do not diminish with continuous daily administration.

For most patients 1 or 2 Rautrax-N tablets daily are sufficient for maintenance therapy. The simplicity, convenience and economy of such a dosage schedule are of particular benefit to older patients.

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Contraindications: Severe renal impairment or previous hypersensitivity. **Warning:** Ulcerative small bowel lesions have occurred with potassium-containing thiazide preparations or with enteric-coated potassium salts supplementally. Stop medication if abdominal pain, distension, nausea, vomiting or G.I. bleeding occur.

Precautions and Side Effects: The dose of ganglionic blocking agents, veratrum or hydralazine when used concomitantly must be reduced by at least 50% to avoid orthostatic hypotension. Caution is indicated in patients with depression, suicidal tendencies, peptic ulcer; electrolyte disturbances are possible in cirrhotic or digitalized patients. Marked hypotension during surgery is possible; consider discontinuing two weeks prior to elective surgery and observe patients closely during emergency surgery. Rauwolfia preparations may cause reversible extrapyramidal symptoms and emotional depression, diarrhea, weight gain, edema, drowsiness may occur. Bendroflumethiazide may cause increases in serum uric acid, unmask diabetes, increase glycemia and glycosuria in diabetic patients, and may cause hypochloremic alkalosis, hypokalemia; cramps, pruritus, paresthesias, rashes may occur.

Dosage and Supply: Initial dosage, 1 to 4 tablets daily, preferably at mealtime. Maintenance, 1 or 2 tablets daily. Rautrax-N is supplied as capsule-shaped tablets containing 50 mg. Rauwolfia serpentina whole root (Raudixin®), 4 mg. bendroflumethiazide (Naturetin®), 400 mg. potassium chloride.

Also available: Rautrax-N Modified — capsule-shaped tablets containing 50 mg. Rauwolfia serpentina whole root (Raudixin), 2 mg. bendroflumethiazide (Naturetin), 400 mg. potassium chloride. Both potencies available in bottles of 100. For full information, see Product Brief.

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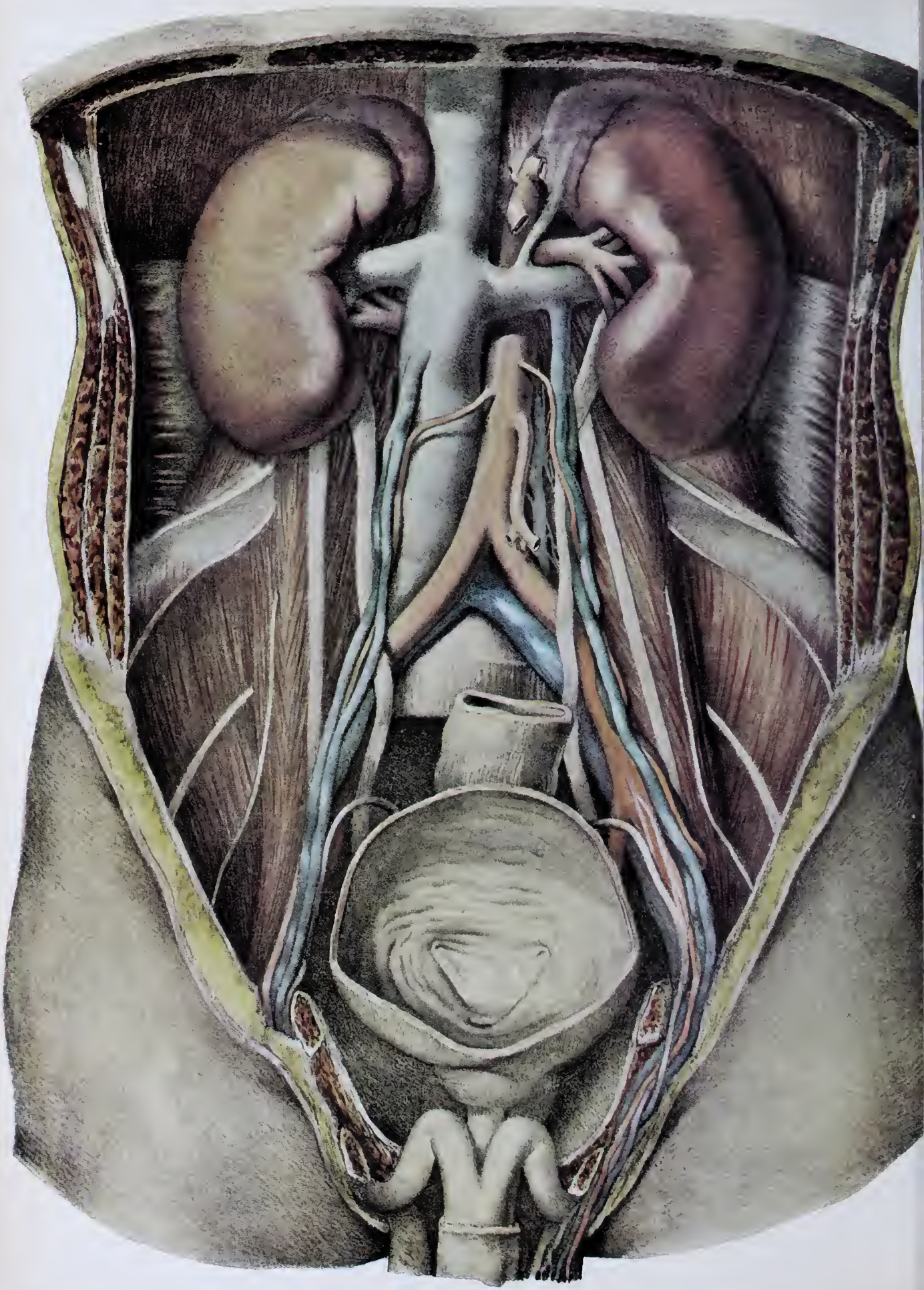
Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Tell patients who operate machinery or motor vehicles that drowsiness may result.

Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

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Contraindications: Hypersensitivity to penicillin; infections due to penicillinase-producing staphylococci and other penicillinase-producing bacteria.

Precautions: If allergic reaction occurs, discontinue ampicillin and administer epinephrine, corticosteroids, antihistamines and/or pressor amines as indicated. Transient moderate elevation of SGOT values of undetermined significance was noted in a few infants. Liver and kidney function as well as hematopoietic tests are advisable during therapy, particularly in infants. As with other antibiotics, precautions should be taken against gastrointestinal superinfection. Safety for use in pregnancy has not been established.

Adverse Reactions: Occasional mild side effects as urticaria, skin rash, pruritus, diarrhea, nausea and vomiting. There have been no reports of blood dyscrasias, liver or kidney damage. Anaphylaxis has been reported.

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Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

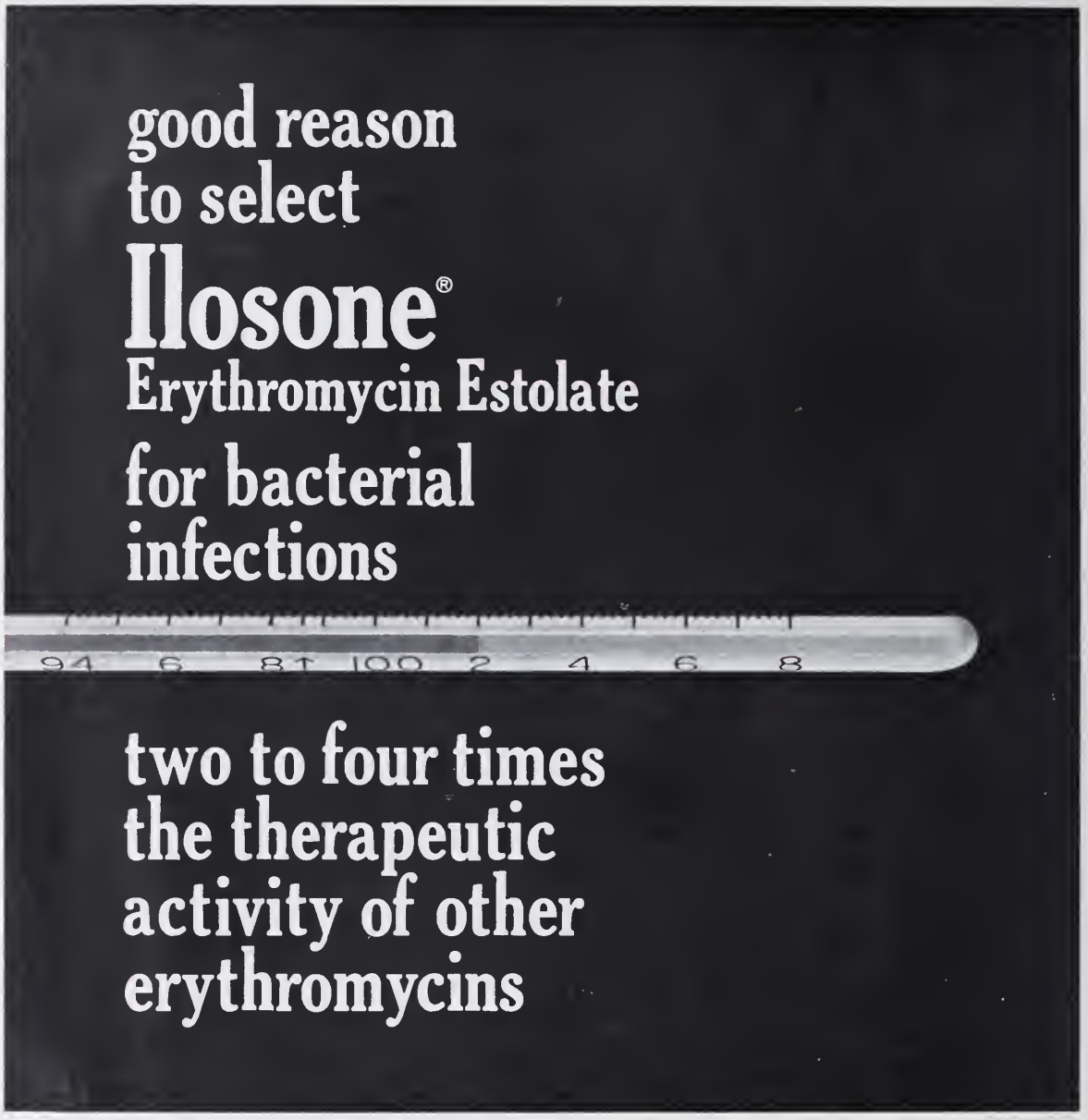
Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculapapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneuratic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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CONTRAINDICATIONS: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

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DOSAGE: *Children under 25 pounds*—5 mg. per pound of body weight every six hours. *Children 25 to 50 pounds*—125 mg. every six hours. *Adults and children over 50 pounds*—250 mg. every six hours. For severe infections, these dosages may be doubled.

Available in Pulvules®, suspension, drops, and chewable tablets. Ilosone Chewable tablets should be chewed or crushed and swallowed with water.

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The Virginia
MEDICAL MONTHLY

November, 1966
Vol. 93, No. 11
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Guest Editorial . . . .

The Autumn of Our Sorrowful Discontent

SAD IT IS INDEED, that we physicians, who have been so outrageously exploited by others for their personal gain, should stand now, in this, our sorrowful "Autumn of Discontent" so appallingly ignorant of the source of our strength. Sad it is indeed also, that we seem to be constitutionally incapable of learning from the experiences of others, but go blindly on, under the banner of "individualism" making the same old mistakes others have made in the past. My brothers, "we must learn from the mistakes of others, for we do not have time to make them all ourselves."

It was in the second half of World War II when American Armies clashed furiously with the enemy in Western Europe. Casualty lists were long, and thousands of American families had lost something that could never be restored to them on this planet Earth. It was then that John L. Lewis called his United Mine Workers out on strike, and the soft coal miners filed out of the pits. The screams of anguish of the American people were immediate and they were echoed in the halls of Congress where our representatives roared "draft the striking miners into the armed forces." The President of the United Mine Workers bided his time, and then answered in only six words but their truth was so apparent that no thinking person could disagree. John Llewellyn Lewis answered in his strong and resonant voice: "You can't dig coal with bayonets." "You can't dig coal with bayonets"; how devastatingly true.

To paraphrase John Llewellyn Lewis: "You can't heal the sick with Bureaucrats." Lyndon Johnson and his Socialist-oriented Welfare State which he calls "The Great Society" cannot heal the sick. No; with all the billions of dollars of the taxpayer's money at his command and all

the millions of government workers on the public payroll, he still "can't heal the sick". Blue Cross cannot heal the sick. Blue Shield "the doctor's own plan" (how ironic that is) cannot heal the sick. Federal Bureaucrats cannot heal the sick. Nobody but doctors can heal the sick and that is the source of our very considerable strength, if only we realized it; if only we had the courage to stand fast. To stand like Thomas Jonathan Jackson stood on the Henry Hill as a disorganized, defeated army fled past him to the rear when General Bee in a desperate effort to stop the retreat roared: "There is Jackson standing like a stonewall; rally behind the Virginians."

Would that we in medicine had a Stonewall Jackson to rally behind today; if we only had the courage to stand fast when defeat seemed inevitable. If we only had the courage to stand and the discipline that would be required for a stand, no power on the face of this earth could stop us from turning the present defeat into certain victory.

We live in perilous times; "Gentlemen may cry 'Peace, Peace' but there is no peace." Perilous times indeed for our individual freedoms which were purchased with the blood of our forefathers and bequeathed unto us, without charge or sacrifice, for safekeeping. Perilous times for our people who are led blindfolded down the road to Socialism by their elected representatives who masquerade as Liberal Republicans or Liberal Democrats. Walt Whitman's prophetic words echoing down through the years are frightening in their import: "No people in the history of the world, who ever voluntarily gave up their freedoms, have ever had those freedoms restored to them."

We Doctors of Medicine have a long tradition of individualism extending back to the birth of the Republic, and of which we can be justly proud. We have never been fitted into any mold; we have never, like Wanda, worn any man's collar. But my fellow physicians I say to you now with all the sincerity at my command that the days when we could indulge in the luxury of political individualism are past, and should be buried "with all due respects".

We have, for too long, been content to heal the sick, while a plethora of voices spoke for us and to which no one listened, least of all our elected representatives. For they know only too well that in fragmentation there is weakness. Regardless of what is right or what is wrong, no politician listens to weakness. If there had been a plethora of voices all speaking for the United Mine Workers, and all with divergent aims, our Government would most certainly have "dug coal with bayonets." Weakness

speaks with many voices and no one listens; strength speaks with only one voice and everyone then *must* listen.

For medicine to speak with one voice and to act in unison requires discipline, just as an army must have discipline to attack in unison on one front to "turn defeat into victory." This discipline that is required will mean the loss of some of our minor freedoms. It will mean the loss of the freedom to disagree for disagreement's sake. It will mean the loss of the freedom to disagree when medicine's one voice says: "You can't heal the sick with Bureaucrats." But I assure you now that if we don't willingly give up these minor freedoms so that we can speak with one powerful political voice that *Will Be Listened To*, then we had better prepare ourselves now for the complete loss of all those freedoms that our forefather's died to give up and gentlemen *I Exaggerate Not.*

In unity there is strength; in disunity there is weakness. Neither our government nor any government will listen to a voice that leads from weakness. Neither our government nor any government *Can Afford Not To Listen* to a voice that leads from Strength. I urge you to remember now when our entire future hangs perilously in the balance that "A House divided against itself cannot stand."

The emergency is upon us; the time for action is now. If we are to survive as free men we must abandon our petty political ambitions; we must forego the jockeying for minor political advantage; we must speak with one voice and that voice must be powerful, insistent, consistent, un-yielding. This will take courage but without courage, there can be no Victory, and no survival and as sure as the sun rises we shall all end up salaried vassals of the State. Now is the time for us to take seriously Benjamin Franklin's words for they are just as true for us today, as they were for him in that hot July of 1776. *"We must all hang together or assuredly we shall all hang separately."*

Thomas J. McKenna, M.D.

608 U.S. Bank Building
Johnstown, Pa.

Pediatric Radiology

Some Potentially Misleading Variations From the Adult

THEODORE E. KEATS, M.D.
Charlottesville, Virginia

The criteria used in interpreting roentgenograms of adults must be modified when dealing with children.

ERRORS IN INTERPRETATION of roentgenograms of children often stem from a lack of appreciation of the variations from the adult which result from the growth process. Misinterpretation often has its origin in two sources. The first of these is the attempt to apply familiar adult criteria to the child, and the other is the failure to appreciate the normal variations of growth which are so common in the pediatric age group. It is the purpose of this presentation to clarify some of the sources of misinterpretation which relate to proportional differences between the child and adult.

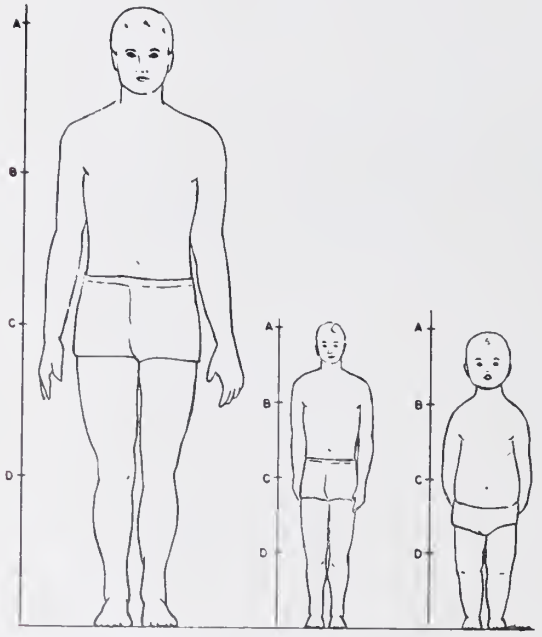


Fig. 1. The child (right) presented in true proportion to the adult as compared with a miniaturized adult (center).

Figure 1 illustrates one of the problems in the interpretation of pediatric roentgenograms; namely, the erroneous consideration of the child as a miniature adult, where he actually presents an entirely different set of proportions of body parts to total body size. Some of the segments of the body which reflect this proportional difference strikingly deserve further discussion.

The Skull—(Figure 2). The neonatal skull differs from the adult in that the calvarium is relatively large and the face and base relatively small. The face does not assume its adult ratio to the calvarium until puberty. The base of the skull is flat and pneumaturization of the paranasal sinuses and mastoids are inapparent. The apparent disproportion between calvarium, base and face might suggest hydrocephalus to the unwary.

The Spine—(Figure 3). The neural canal of the cervical spine in children appears proportionally larger than the vertebral bodies as compared with the adult. This is particularly striking in infants and young children and has proven a source of concern in the search for expanding cord lesions. This proportional difference is also true in the lateral projection (Figure 4). The juvenile cervical vertebrae appear wedge shaped since they lack the ossification of the secondary centers which com-

From the Department of Radiology, University of Virginia Medical School.

plete the adult rectangular configuration. This should not be misconstrued as a manifestation of faulty development or trauma.

The Heart—(Figure 5). Adult criteria for heart size do not apply to children since the heart occupies a proportionally greater portion of the thorax than is true in the adult. This is particularly well reflected in the transverse dimension of the heart and chest, and the familiar cardiothoracic ration is therefore not applicable to children.

The Thymus—(Figure 6). The great variability of the size of the thymus in children is well recognized, and there are as yet no accurate roentgen criteria for determination of "normal" size. Considerable leeway should be granted before a decision concerning abnormal enlargement is made in an infant. The thymus is, of course, not seen in the normal adult.



Fig. 2. Proportional differences between the neonatal and adult skull.

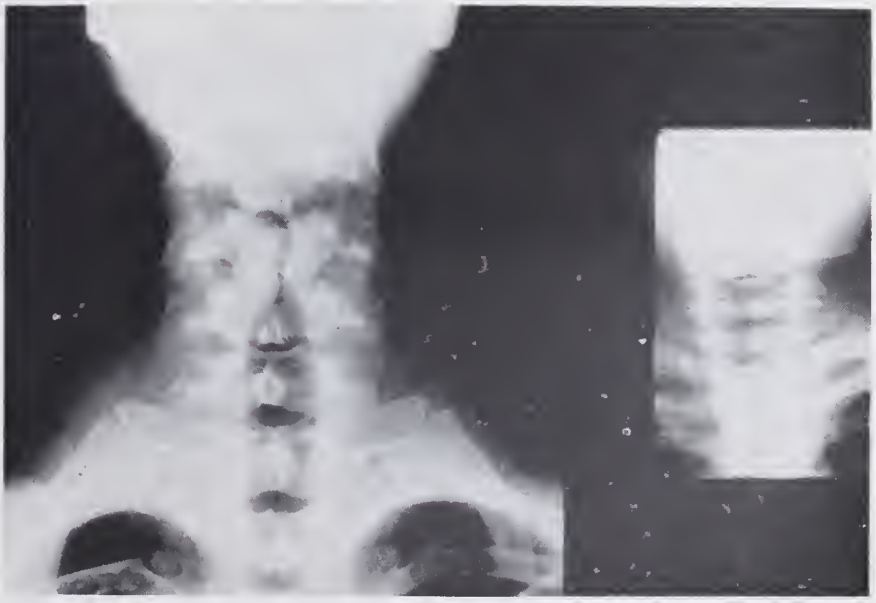


Fig. 3. Proportional difference between size of the neural canal in the juvenile and adult cervical spine, anteroposterior projection.

The Pulmonary Artery—(Figure 7). The pulmonary artery often appears to occupy a proportionally larger portion of the cardiomediastinal silhouette than it does in

the adult. This is particularly true in the adolescent and more so in girls. This finding should not, in itself, be taken as evi-



Fig. 4. Proportional difference between the size of the neural canal in the juvenile and adult cervical spine, lateral projection.

dence of a cardiac abnormality such as pulmonic stenosis.

The Trachea—(Figure 8). The trachea in the infant is relatively long compared with the size of his thorax. In inspiration, the trachea elongates and shifts caudad. This movement is reversed on expiration. In infants and younger children, this results in normal buckling of the trachea to the right at the thoracic inlet and can simulate displacement by a mass.

The Liver—(Figure 9). In the infant and child, the liver occupies a proportionately larger part of the abdomen than the adult. At birth, it is said to occupy ap-



Fig. 5. Proportional difference between the size of the infantile and adult heart.

proximately 2/5ths of the abdominal cavity with the right lobe extending to the iliac crest and the left lobe to the spleen. The



Fig. 6. Variable appearance of the thymus in 2 infants, on the left producing a broadened mediastinum, and on the right a double density along the right heart border.

size proportionate to the abdomen decreases with growth and makes roentgen evaluation of size at any age hazardous.



Fig. 7. Prominent pulmonary artery in a normal 11½ year old boy.

The Esophagus and Stomach—(Figure 10). Compared with the size of the chest and abdomen, the esophagus of the child appears proportionately larger than is the case in the adult. The infantile esophagus does not demonstrate well the adult curves and constrictions and presents usually as a smooth tubular structure. The subdivisions of the stomach are poorly differentiated, and the duodenal bulb lies in a marked posterior position.

The Colon—(Figure 11). The colon of the child occupies a larger percentage of the abdomen than it does in the adult. This may be misleading in consideration of the presence of megacolon. Haustrations are nearly always present in the newborn but are less numerous and shallower than in the adult.

The Bladder—(Figure 12). The same proportional differences also apply to the urinary bladder. The size of the bladder, of course, depends upon the degree of distention, but, in general, the infantile bladder is capable of a greater relative degree of dilatation in proportion to the size of the abdomen than the adult. Even in normal children, the bladder may attain an alarming size if this proportional difference is not appreciated.

Comment

Failure to appreciate the difference in the proportion of body parts to total body size may lead to erroneous conclusions in roentgen pediatric diagnosis. It may be extremely difficult at times to determine the limits of normal in the child since our criteria for normal size are less absolute than those of the adult. Fortunately, some roentgen

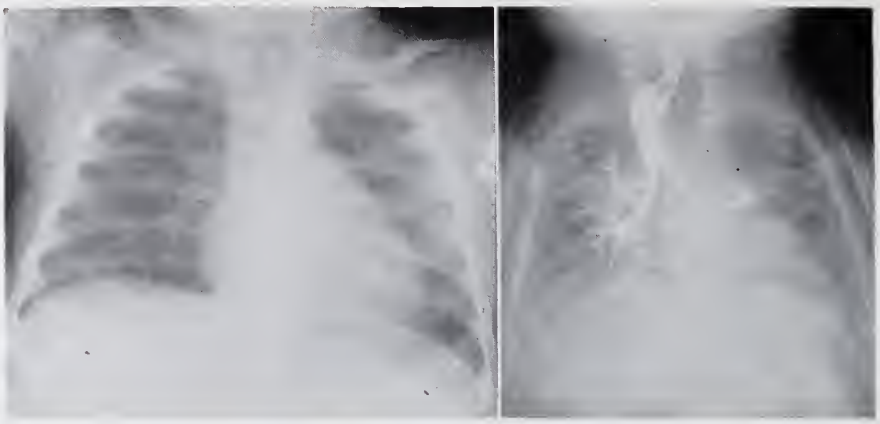


Fig. 8. Normal tracheal buckling at the thoracic inlet.



Fig. 9. Proportional difference in liver size in 3 year old and adult.



Fig. 10. Proportional difference between the size of the esophagus and stomach in infant and adult.

measurements of children are available for more accurate determination such as skull size (1), cardiac volume determination (3), transverse interpedicular distances of the spine (4), and sagittal diameters of the cervical spine (2). Many more determinations of this type remain to be accomplished in pediatric roentgenography for the establishment of norms at various ages. The availability of criteria of this type will contribute further to the accuracy of roentgen diagnosis in children.



Fig. 11. Proportional difference between the size of the colon in a 3 year old and an adult.



Fig. 12. Proportional difference between the size of the distended normal infantile and normal adult bladder.

Summary

Children present a different set of proportions of body parts to total body size as compared to adults. Such differences are particularly apparent in the skull, cervical spine, heart and thymus, trachea, liver, gastrointestinal tract and bladder. Appreciation of these proportional differences will obviate errors of commission in interpreting pediatric roentgenograms.

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University of Virginia
Charlottesville, Virginia

Where Now?

(From a Letter in the London Daily Telegraph)

Citizens of Dover who have the misfortune to choke on a fishbone or break their legs while climbing into a lifeboat must travel seven miles by ambulance to the Folkestone Hospital or 15 miles to the Canterbury Hospital. The Casualty Department of their own local hospital is closed for lack of a doctor to run it.

We are beginning now to see the logical consequence of the kind of feckless welfarism in which our politicians have been striving to outbid each other during the past 20 years. Such a system is ultimately (and ultimately doesn't mean very long) unworkable without a Berlin Wall to prevent the escape of anybody ambitious enough to want something more than pauperised security.

I wouldn't put it past Mr. Wilson to create such a wall. But there is, of course, one other possibility which may yet halt the flight of young doctors. America's Medicare scheme, still in its first infancy, could easily go the way of the Health Service.

Mr. Hubert Humphrey, Vice President of the United States, made a chilling speech the other day. "What makes you think," he asked, "that the children of the country club ought to have a swimming pool and the kids in the slums ought not to have one? That's all over." If this attitude of mind, this demagogic crassness, comes to prevail in America, as it has done in Britain, what island of sanity will be left for anyone to emigrate to?

Reprinted from the Richmond News Leader, October 5, 1966

Prostatectomy in the Community Hospital

F. S. BEAZLIE, M.D.
W. H. SIPE, M.D.
R. L. SALLADE, M.D.
A. A. CREECY, M.D.
Newport News, Virginia

Several methods of prostatectomy are available and it is a rare patient who cannot benefit by at least one of these.

MODERN PROSTATIC SURGERY parallels the twentieth century. It began with the development of open prostatectomy through the perineum by Young and suprapubically by Fuller and Freyer. These paths offered relief of a condition with a mortality of over 50% using the blind urethral methods of the time or untreated. The urethral method returned to vogue with the perfection of the Stern-McCarthy resectoscope about 1932, providing a visual means of cutting under water and removing the prostate piecemeal. In 1945 Millin advocated retropubic prostatectomy and it became popular rapidly.

The purpose of any prostatectomy is to relieve urinary obstruction due to prostatic enlargement, or to cure early carcinoma of the gland. The secondary goal is to give the patient a forceful urinary stream which he can control, leave him potent, and do all this with minimum morbidity and mortality. Freyer's mortality in 1000 suprapubics was 6%, Young's for 1049 perineals 3.4% and Nesbitt's in 645 TURS 1.2%. Fox and Dodson collected figures from the literature and found a TUR mortality of 2.1% and an open prostatectomy figure of 6.7% for 1941-46. For 1950-55, the figures were 1.4% and 1.8%. Ansell et al. in 1965 reported a TUR figure of 1.7% and combined figure of 2.7%.

Since 1951 we have performed 1229 prostatectomies on 1212 people. Suprapubic prostatectomy was used in 250 (20.4%), transurethral in 584 (47.4%), retropubic in 348 (28.4%), and perineal in 47 (3.8%). The combined mortality was 3.3% (42 deaths). Transurethral mortality was 1.6% (9), suprapubic 6.4% (16), retropubic 4% (14), and perineal 6.8% (3). The causes of death varied but little between methods. Eighteen were sudden due to vascular causes; seven occurred after 24 to 60 days for ill defined reasons other than age, anorexia, debility and no place to go; five died from carcinoma of the prostate; three with gram negative septicemia; five in uremia; one with cirrhosis of the liver; one with acute gastric dilatation; one from gastric hemorrhage and one prostatic hemorrhage.

We have avidly sought carcinoma of the prostate, especially early, but have found only 118 cases in the entire series, an incidence of 9.8%. This is much lower than the reported incidence of cancer of the prostate in the literature which ranges from 14% to 50% in men over age fifty. It is also in contrast to an unselected series of 111 perineal needle prostatic biopsies done either routinely or to obtain a positive diagnosis of carcinoma prior to orchiectomy. In this group 27 were positive, an incidence of 24.3%; 24 were suspected by clinical examination. In the benign 84 remaining, 11 were clinically suspicious. We have found

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perineal needle biopsy simple, safe and helpful, in both diagnosis and treatment and still employ it frequently but not routinely.

Suprapubic prostatectomy is the least demanding operation technically and still favored by many excellent urologists as well as the general surgeon who must do some urology. However, it continues to carry a mortality of around 6%. In our hands it also carried a higher morbidity. Hospitalization lasted about four weeks postoperatively due mainly to the complications of hemorrhage and slower healing of the suprapubic sinuses from drainage tubes. Five patients had to be packed at surgery to control bleeding. Eight cases of delayed bleeding required a second suprapubic operation and packing to staunch the blood, and two of these unfortunates had a third go before no more bleeding occurred. One patient died because of hemorrhage. We have practically abandoned this method since 1960.

Perineal prostatectomy continues to exert a fascination of its own and should probably be considered more often. It is the most anatomical approach and shares with retropubics a low morbidity and mortality although our personal data belie this at the moment. There is really no substitute for the perineal approach in early carcinoma with its exposure of any suspicious nodule, immediate frozen section and radical extirpation if positive. We have performed 14 total perineal prostato-vesiculectomies for carcinoma with zero mortality, the youngest patient being 47 and oldest 73. All have had an excellent functional result. Three lived nine or more years without recurrence, eight are living without recurrence from one to seven years, two are living with recurrence at four years and under one year and one died at 18 months of his disease. There have been 33 simple perineals with excellent functional results as well (even in those that died). Hemorrhage has not been a problem in any case.

T. M. Davis of North Carolina popularized transurethral surgery as we know it and apparently had excellent results. Unfortunately, he considered the procedure a minor one and this view persists among the uninitiated. It does carry low mortality and few complications—hemorrhage and perforation of the prostatic capsule being the main ones. It is the most difficult to learn to perform well even after long apprenticeship, and always remains technically the most demanding method. It is an ideal operation in smaller glands, benign or malignant, and the method of choice to keep the urinary tract open in any incurable malignant gland. We had four cases of hemorrhage requiring suprapubic cystostomy and packing, one of whom died. Only one of these has occurred since 1955. Low mortality, short hospital stays of about seven days, no wound, patient comfort and lessened nursing care account for transurethral surgery being used for half or more of all obstructive prostates the country over.

Retropubic prostatectomy has the virtues of transurethral and most of those of perineal with the exception of immediate biopsy and excision of early malignant glands (although many ingenious ways have been devised to circumvent this perineal advantage). Retropubic prostatectomy is easily and quickly performed in under an hour usually, with excellent control of bleeding under direct vision. It is applicable to any size gland. It permits a modified radical procedure in cases of unsuspected carcinoma by removing the posterior capsule and seminal vesicals while leaving the anterior capsule for closure—a technique that has worked in five cases all of whom are living without evidence of their disease. It also works well in inflammatory or granulamatous glands that require sharp dissection for removal. Hemorrhage has not been a problem and the average hospital stay is under 10 days. Our most distressing complication has been severe vesical neck stricture requiring TUR in two instances and suprapubic bladder neck revision in one. This has been due to failure to pull vesical mu-

cosa over our vesical neck wedge which we always do now. There has been only one instance of suspected osteitis pubis which cleared without treatment. One unusual complication was the spontaneous rupture of the transverse colon in one patient which the surgeons repaired without incident.

Certain complications are common to all methods of prostatectomy. Among these are epididymitis, urethral strictures, and incontinence. Epididymitis occurred in about 10% of our cases. Stricture has been a minor problem except as noted. Permanent incontinence has occurred in only seven patients (no perineals). Few patients have mentioned impotency.

Since prostatism is a disease of advancing years, there is a high incidence of associated disease especially of the cardiovascular-pulmonary systems, joints, diabetes and anemia, gallbladder, stomach and occasionally liver to complicate their management. Agewise, our series spans from 34 years in the youngest TUR to one TUR in a 94 year old and a perineal on a 97 year old—both of the latter being successful. Sixty-nine per cent of our cases were between 60-79 age group, the median age being 68. We have operated on any patient regardless of age or associated disease so long as the patient and his family have understood the risks involved including death, and our supporting GP's, internists, have gotten the patient to his peak condition and are willing to submit him to surgery, and lastly and especially our anesthesiologists are willing to accept the risk.

To this team one must add first rate nursing care in our intensive care units (and now a coronary care unit). With these facilities there have been few people to whom surgical relief from a messy catheter life has been denied, and a number of abominable risks have survived operation to be grateful. We have done all of these cases in three community hospitals (Riverside, Mary Immaculate and Dixie) on an unselected basis taking service cases along with our own and without resident help.

In conclusion, we submit that modern prostatectomy in a modern community hospital is a safe and gratifying procedure, that age alone is no barrier to operation, that even in the face of associated disease there are almost none who cannot have the benefit of at least one method of prostatectomy with the support of a surgically oriented medical man, the resuscitation expert commonly called an anesthesiologist, and the excellent nursing care of an intensive care unit, and that the retropubic and transurethral routes are the preferred routes for most cases with the perineal winning hands down in the attack on early carcinoma and in certain cases such as low large glands in obese patients as our two 300 pounders.

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Cold Injury

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A surprising degree of recovery is possible even after severe cold injury.

SEVERAL PATIENTS with varying degrees of frost bite resulting from the recent severe winter (1966) were seen at the Lewis-Gale Clinic. These patients presented such difficult and variable problems that it was thought worthwhile to review the pathogenesis and treatment of severe cold injury.

Many terms have been used to describe cold injury: 1. trench foot, 2. immersion leg, hand or foot, 3. shelter foot, 4. chilblains, and 5. frost bite. All these terms describe a common injury . . . the cold injury, and for clarity, this term will be used in this paper.

Normally, body temperature represents a balance between metabolic heat production and loss, with the central body temperature being one to two degrees warmer than in the periphery. Thus, fingers, toes, ears, and noses are frequently involved by cold injuries. Water is an excellent conducting agent, so that a severe cold injury can result from exposure to a temperature which is not below freezing in a wet environment.

As a result of the cold injury, changes of varying degrees occur in the affected tissues. Then, too, the severity of the injury is determined by the length of exposure. Fascia and connective tissue are quite resistant to cold but not as much as bone and tendon. The compact area of bone is resistant but within the marrow there can be some cellular loss which on x-ray gives the appearance of osteoporosis. Muscle may show simple atrophy or else necrosis with replacement by granulation tissue. Also, edema of nerve fibers with swelling in the myelin sheaths may be seen microscopically. Thus, depending upon the severity of nerve injury there may be sensory loss with muscle weakness or paralysis. The skin changes vary from blebs to patches of gangrene in the superficial areas. This is usually a dry (non infected) gangrene unless secondary infection occurs. Initially there is a peripheral vasoconstriction, but because of capillary damage, plasma is lost to the surrounding tissue, and red blood cells become packed together in the smaller vessels to form sludges. In some cases actual thromboses occur 24-36 hours after injury. This results in edema which usually reaches its maximum six to eight hours after warming and begins to subside approximately 24 hours later. However, before the absorption may be completed fibrosis can occur.

These patients complain usually of numbness during the acute phase and not until the warming phase do they begin to have pain.

Since the Korean War,[5] the classification of cold injury has been according to the extent of damage . . . 1. erythema and swelling with no blebs, 2. blebs, 3. full thickness skin injury with gangrene but without loss of the part, 4. complete gangrene with loss of the part.

Treatment is divided into that for the acute injury and for the chronic stage. Experimental work[1,2] has shown that it is best to warm the extremity as rapidly as possible in water with temperature of approximate-

ly 105-107 degrees F. Then, after warming, the extremity should be gently cleansed with pHisohex and immobilized with a compression dressing and splint in which vaseline gauze is placed next to the skin. Hospitalization is necessary and slight elevation is helpful. Prophylactic antibiotics and tetanus immunization should be given. Skin blebs should be left intact, or if they rupture then carefully debride them. The compression dressing should be changed every two to three days or sooner as is necessary. The use of anticoagulants has given equivocal results. After the initial acute phase of five to eight days, active range of motion should be started in the affected joints. A characteristic feature of cold injury is the surprisingly good result possible even in the severely injured extremity. A blackened and apparently hopelessly traumatized area may result in complete return to normal with only a superficial skin loss. Thus, amputation should be undertaken only when it is obvious that the part is lost completely. For, as long as there is motion in the involved area, there is hope for preservation of the part. Many patients have a late sympathetic dystrophy which should be treated by range of motion, sympathetic blocks and tranquilizer (Sparine, 25 mg., tid). A sympathectomy may be necessary.

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New Drugs But Old Problems

LSD and other psychedelic drugs to come suggest that some will be devised to have far reaching benefits upon perception, memory and mentation that may produce a new breed of man . . . We are probably on the threshold of "well-healed" scientific inquiry into mind-memory learning, problem solving, thinking. Attempts to understand the operations of the brain must produce knowledge whose impact upon our civilization may be immense. We must consider in advance how to deal with the ethical, political and social problems that may arise, if a real psychedelic drug comes into existence.—Louis H. Nahum, M.D., in *Connecticut Medicine* (30:165), March 1966.

Reconstructive Nasal Surgery

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Techniques used by the otolaryngologist in the repair of nasal deformities are discussed.

THE OTOLARYNGOLOGIST faces many challenging problems in the repair of nasal deformities arising from trauma and invasive malignancy. Both function and form must be considered, for cosmetic improvement alone is of limited benefit.

Briefly discussed are some of the techniques used in repairing nasal deformities associated with cleft lip, major and minor skin voids of the nose, and extensive nasal carcinoma. The various steps involved in the staged surgical procedures are not discussed in detail.

Cleft Lip

The literature describes a number of techniques for correcting cleft lip. One of these, the LeMesurier technique described by Brauer, has given good results in several cases. However, in many cases there is a tendency to overlook the inherent nasal deformities associated with the complete cleft lip (Figures 1A and 2A). The offensive facial expression caused by such a deformity is evident in Figure 2A. These two figures clearly illustrate how lip closure improves the gross nasal deformity (1B, 2B).

Fig. 1. Cleft lip in 48-year-old man.



A. Before surgery B. After surgery

The secondary nasal deformity in the adult (Figure 1B) can be corrected about six months after the first operation. (This

Fig. 2. Cleft lip in infant.

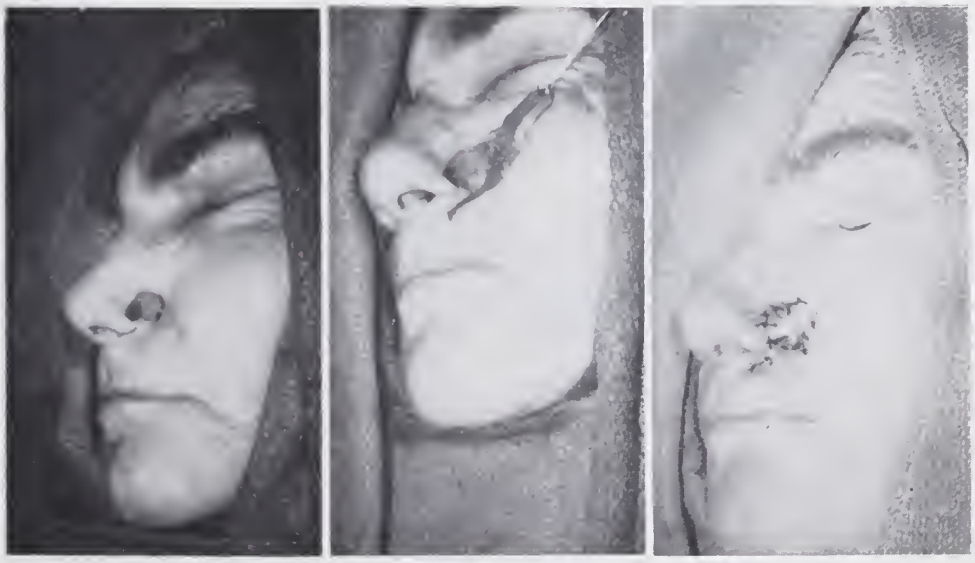


A. Before surgery (5 days old) B. After surgery (8½ months old)

48-year-old patient was first treated for maxilla fractures sustained in a car wreck; he reluctantly agreed to undergo surgery,

veloped the mask-like face of the intelligent, sensitive adult. In such cases the facial expression exaggerates the already distressing appearance of the nose. Since the cartilages of the nose may not develop fully until the 15th or 16th year, the op-

Fig. 3. Minor skin void in elderly woman.



A. After resection of carcinoma B. During rotation flap procedure C. After surgery

but later conceded that the operation was very beneficial.)

The infant in Figure 2A has not yet de-

timum age for rhinoplastic correction of the secondary nasal deformity is 16. The remaining flattening of the right ala can be seen in Figure 2B.

Skin Voids

The procedure for repairing a nasal skin void depends on the extent of the void. If the void does not extend intranasally, it can be replaced by a free graft from readily available matching donor sites, such as the supraclavicular and postauricular areas. A split-thickness graft can also be obtained from the supraclavicular area; saline solution is injected into this site to increase the surface area available for the graft. A full-thickness graft is usually obtained from the postauricular area; layered suturing of the donor site and dressing of the graft and donor sites complete this procedure.

An even simpler method of repair for such defects is the rotation flap. As shown in Figure 3B, the skin immediately adjacent to the defect is elevated to produce the flap.

If the void does extend into the intranasal lining, the tissue used in reconstructing the defect must have an intranasal lining; tissue is usually obtained from a free graft. In cases of this kind, the size of the defect often requires the use of staged procedures.

When a full thickness of even a small portion of the nose is lost, as in Figure 4A, the intranasal lining must be replaced. Even though the size and the location of the defect in Figure 3A are similar to those in 4A, the rotation flap method described for case 3A would not be satisfactory in case 4A (a raw surface on the intranasal side would cause shriveling and distortion).

During resectioning of the left nostril and cheek (Figure 4A), an adjacent flap was partially outlined and elevated at the flap end distal to the defect; a split-thickness graft was then placed on the medial surface to line the flap. Following a delay, during which outlining of the flap was completed, the flap was transferred to the defect (Figure 4B). The flap provides a lining of skin both inside and outside the reconstructed area of the nose. After a delay, the flap is severed at the proper site, and the remaining flap is returned to the bed. Figure 4C shows the patient after completion of the procedure.

Fig. 4. Full-thickness nasal loss in elderly woman.



A. After resection of carcinoma

B. After transfer of skin-lined flap to site

C. After final staged procedure

Extensive Nasal Carcinoma

A carcinoma that involves the dorsum of the nose and extends intranasally requires resection of most of the nose (Figure 5A). In such cases the forehead is a satisfactory source for reconstruction if the skin is in good condition. This procedure utilizes a

supraorbital loop flap which is lined with skin (split-thickness graft), about 4 centimeters proximal to the end of the flap that is to form the nasal tip. At least six steps are involved in the multistage formation of the flap, its transfer, and severance of the pedicle from the reconstructed nose. Detailed discussion of these steps, as used in the case in Figure 5, is not within the scope of this paper.

Fig. 5. Extensive nasal carcinoma in female patient.



A. After resection of carcinoma

B. After transfer of supraorbital loop flap to site

C. After final staged procedure

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Seat Belts

More people have seat belts in their cars than ever before. Many riders, however, especially occupants of the newer models, risk death by failing to wear them.

Researchers at Cornell Aeronautical Laboratory, Inc., of Buffalo, New York, report this finding from a study of a selected group of automobile accidents from 1956 to 1965. The study was supported by the Public Health Service's Division of Accident Prevention and the Automobile Manufacturers Association.

New cars, beginning in 1964, have had seat belts as standard equipment in the front seat. Beginning with the 1966 models, seat belts have been standard equipment in front and back seats.

The report found that only 30 percent of the people in 1965 model automobiles were wearing their seat belts in the accidents under study. Thirty-seven percent of the occupants of 1961-62 models were wearing their belts.

"It has been estimated that the lives of 5,000 persons would be saved every year if everyone wore seat belts," said Dr. Paul Joliet, Chief of the Division of Accident Prevention.

"Drivers and their passengers owe it to themselves and to their families to wear seat belts now being provided for them. The deaths of persons in automobile accidents are even more tragic when the seat belts that might have saved them are found lying unused."

Carcinoma of Bartholin's Gland Duct with Involvement of the Rectum

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A few cases have been reported of Bartholin's gland carcinoma with extension to the rectovaginal septum. The patient being reported presented with primary rectal complaints subsequent to posterior extension of a Bartholin's gland duct carcinoma.

THE LITERATURE of the last 15 years contains several excellent reviews of Bartholin's gland carcinoma which illustrate the symptoms, signs, and natural history.[1,2,4,5,10] Recently an unusual case of Bartholin's gland duct carcinoma was referred to the Gynecology Service of Wilford Hall USAF Hospital. The most common extension of Bartholin's gland carcinoma is said to be lateral and anterior;[1,4,5,10] a few cases have been reported with extension to the rectovaginal septum.[7,10] This case is reported because the patient presented with primary rectal complaints subsequent to posterior extension of Bartholin's gland duct carcinoma.

Case Report

The patient, a 42-year-old Caucasian female, para 0-0-0-0, noted pain and a fullness of the right vulva for one year and developed constipation with occasional blood streaked stools over a two-month period. On physical examination, a rectal lesion was found, and upon sigmoidoscopic examination, it proved to be a constrictive area 6 cm. from the anus. A biopsy of the tissue showed that squamous-cell carcinoma underlined the normal rectal mucosa. The patient was referred to Wilford Hall USAF Hospital.

Physical examination on admission was completely normal except for the pelvic examination. At the introitus, a 4-cm. hard, discrete mass was present in the right labium-majus in the region of the right Bartholin's gland. This mass was contiguous with a much larger one which infiltrated the rectovaginal septum up to one-half the length of the vagina and completely encircled the rectum, constricting the rectal lumen to a 1-cm. diameter approximately 6 cm. from the anus. The skin over the vulva and the mucosa over the vagina and rectum were intact. The rectovaginal septum was approximately 7 cm. thick in the mid-segment. The mass was fixed to the levator muscles and appeared to be fixed to the right pubic ramus. Staining the vagina with Lugol's solution revealed no lesions. The cervix was nulliparous and clear while the uterine corpus was anterior, mobile, and normal. The adnexa revealed no masses, and neither groin had any adenopathy.

Laboratory data of significance included a chest x-ray, intravenous pyelogram, radiographs of the abdomen, metastatic bone survey, air cystoscopy of the bladder, and liver function studies, which were all nor-

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mal. A Frei test was negative. The barium enema revealed a rectal shelf lesion with annular constriction of the rectum. Proctoscopic examination revealed normal mucosa above, below and over the tumor with no evidence of the tumor ulcerating into the rectum.

The patient had a biopsy of the vulvar mass and rectovaginal septum, a curettage of the uterus, and cervical biopsies. The biopsy of the vulvar lesion and rectovaginal septum showed well differentiated squamous-cell carcinoma, the cervical biopsies were normal, and the endometrial biopsy showed atrophic endometrium. Examination under anesthesia revealed that the entire tumor mass was mobile and free from the pubic ramus but apparently attached to the right levator muscle, extending to the left side of the rectovaginal septum and circumscribing the rectum. A diagnosis of Bartholin's gland duct carcinoma was made. The patient was given 2,000 R Cobalt^{60} to the whole pelvis over a two-week period. Immediately thereafter, at laparotomy, no evidence of disease extension to the upper abdomen or along the aortic chain of nodes was noted. The uterus, tubes and ovaries appeared to be normal. A bilateral pelvic node dissection and a bilateral oophorectomy were performed. The posterior portion of the vagina, the entire rectum, the anus, and the entire vulva, including the medial aspect of levator muscle, were removed by en bloc dissection. The fundus of the uterus was sutured to the sacral promontory to prevent prolapse of the bladder and gut into the posterior pelvic defect. A terminal sigmoid colostomy was performed. No attempt was made to close the perineal

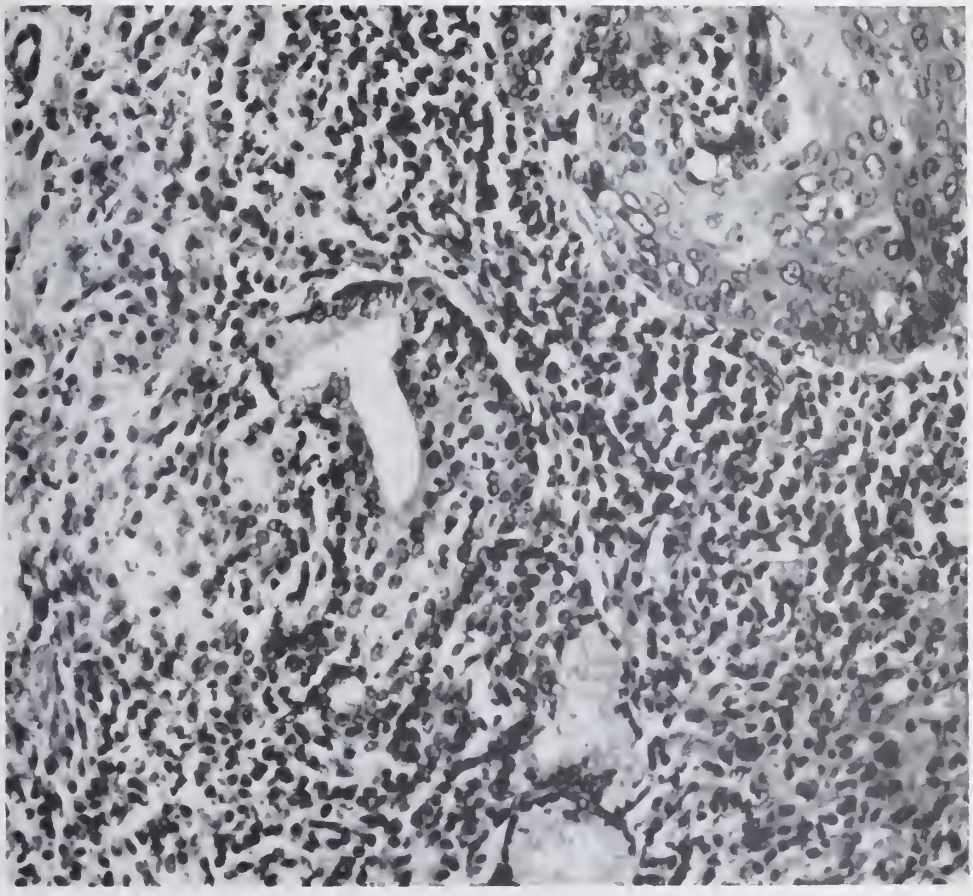


Fig. 1. A segment of the tissue showing recognizable Bartholin's gland bordered by malignant squamous tissue (X 180).

defect, but this was allowed to granulate and heal secondarily. The postoperative course was entirely uncomplicated. Three months following initial surgery she underwent bilateral groin dissection. At one year there was no evidence of recurrent disease.

The gross specimen revealed a solid right Bartholin's tumor, 2.5x2.5x2.5 cm., with extension of the tumor along the right side of the vulva and into the proximal portion of the posterior vaginal wall. The tumor mass at the mid-portion of the rectovaginal septum was 7 cm. in thickness. It surrounded and constricted the rectum beneath the mucosa of both the rectum and the vagina. The histological study revealed almost total replacement of Bartholin's gland with squamous carcinoma. Some areas contained recognizable Bartholin's gland tissue (Fig. 1). From this area, cords and columns of malignant squamous tissue extended to the surrounding tissue. The Bartholin's gland duct was lined by malignant squamous epithelium with extension of the tumor to the surrounding stoma (Fig. 2). None of the lymph nodes revealed metastasis, and the surgical margins were free of tumor.

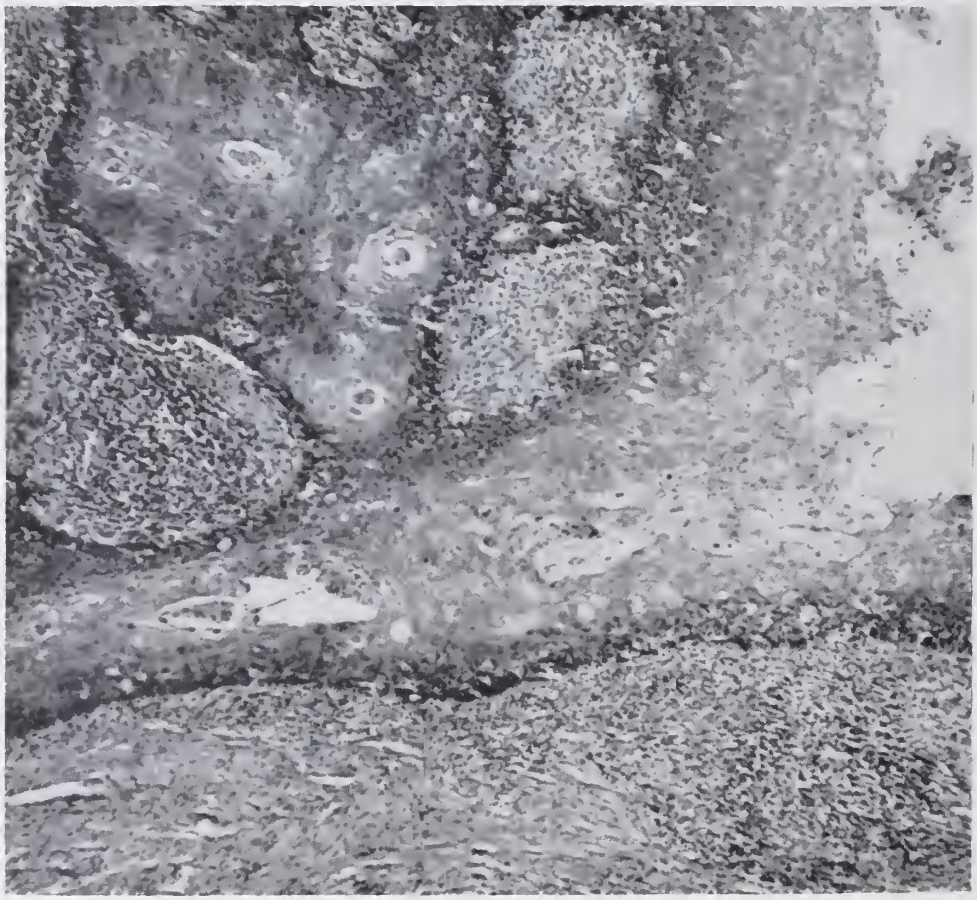


Fig. 2. Bartholin's gland duct lined by malignant squamous epithelium with extension of the tumor to the surrounding stroma (X 50).

Discussion

Bartholin's gland carcinoma is reported to be of the squamous-cell type in only 35.8%[10] to 42%[1] of the reported cases while the majority of cases are adenocarcinoma. The average duration of symptoms varies from 8.8[1] to 15 months.[10] Most cases occur between the ages of 40 and 69 years and give no history of a previous Bartholin's gland infection. This case fits into each of these categories; however, the symptoms presented were slightly different than the usual. Her initial complaints of vulvar

swelling followed by pain are common, but because of the posterior extension encircling and constricting the rectum, she presented with bowel complaints and was considered initially to have a primary rectal lesion. It has been stated[10] that, because of the anatomical location, these tumors tend to infiltrate the deeper tissues about the vagina and rectovaginal septum with ulceration late in the disease process. Wharton and Everett[10] state that the number and rapidity of formation of Bartholin's gland metastasis are unpredictable. Dennis et al.[2] state that metastasis to distant sites, such as the lung and the liver, occurs early and frequently. However, the most common routes of metastasis are similar to those of other vulvar carcinomas, i.e., to the inguinofemoral, external iliac, obturator and hypogastric nodes, and to the urethral region. Payan and Kish[9] recently reported another case with early metastasis. In general, prognosis has been poor[1,3,5,8] and, as stated by Murphy et al.,[6] every solid tumor of the Bartholin's gland should be considered a cancer until proven otherwise. The original criteria for diagnosis of Bartholin's gland carcinoma established in 1897 by Honan were: (1) typical vulvar sites, (2) position deep in the labia, (3) connection with the duct of the gland, and (4) presence of intact gland tissue. A fifth criterion added was that the skin was intact over the labial tumor.[5,8] This case fulfills the criteria.

Newman and Gray[8] stated that these tumors are believed to be radioresistant, and Barclay et al.[1] recommended extensive surgery for therapy. Prior to surgery, this patient was given 2,000 R $Cobalt^{60}$ to the whole pelvis in an attempt to destroy or damage any tumor cells which might be present in the lymphatics. It is of interest to note that initially some examiners considered the patient inoperable because of spasm and fixation of tumor to the perineal musculature. However, examination under anesthesia revealed that the tumor was well circumscribed, mobile, and apparently operable.

Summary

A few cases have been reported of Bartholin's gland carcinoma with extension to the rectovaginal septum. The patient being reported presented with primary rectal complaints subsequent to posterior extension of a Bartholin's gland duct carcinoma. She received preoperatively whole pelvis $Cobalt^{60}$ radiation, followed by bilateral pelvic node dissection, posterior exenteration, vulvectomy and bilateral groin dissection. The patient was in apparent good health without evidence of recurrence on follow-up at one year. The response of this patient to extensive surgery is considered excellent.

Acknowledgment

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Praise Research News

Newspapers, magazines, radio and television perform an important service by distributing science news to the public, according to a survey of faculty members at the University of Wisconsin Medical Center.

The majority of medical teachers who replied said they:

1. Consider it important for the public to have a chance to read medical science news in the mass media.

2. Often get scientific information themselves from public news sources.

Asked, "In your opinion, how important is it that the public have an opportunity to read stories published in the popular media about current medical research generally?" 89 per cent of the responding faculty members answered "very important" or "somewhat important." The remaining 11 per cent felt that it makes little or no difference whether the public knows about research.

Medical research news is one way to keep the public informed about how money given to medical research is being spent, about half of these answering the questionnaire pointed out. Another 20 per cent said the public has an interest in medical research news, regardless of the money in question.

Mass media medical research news promotes better community health and also increases public understanding of what research is all about, 17 percent of the teachers said. The above statements were in answer to a question as to whether it was important for the public to read medical research news, and if so, why.

Fourteen per cent of the faculty members said it is not important for the public to read about medical research because readers do not have the scientific background to understand or properly interpret this type of news.

The survey also sought to determine how much the medical teachers themselves find out about medical developments from the mass media.

Respondents were asked: "Do you ever get information about new research developments within your own specialty from the public media?" Of the 144 replies, 60 per cent said they sometimes get information about their own special medical interests from the mass media. The remaining 40 per cent said they did not.

Ninety-four per cent of the respondents said they sometimes get information about non-medical science research from the mass media.

Only 21 per cent of the respondents felt that the public understands either "extremely well" or "pretty well" the work being done within their own medical specialty. Thirty-eight per cent, however, felt that the public understands either "extremely well" or "pretty well" the research being done within science generally.

The survey was prepared and distributed by the Office of Public Information at the University of Wisconsin Medical School, Madison. The authors are Paul Van Nevel, director of public information, and Donald L. Shaw, science writer.

Normal and Pathological Grief Reactions

A Guide for the Family Physician

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Charlottesville, Virginia

Normal and pathological grief reactions are discussed and suggestions for their management are given.

AS CELEBRATIONS and festivals of normal people are normal counterparts of mania, so grief reactions form normal counterparts of depressive states. The formulation of the fundamental concepts of grief and depression from the point of view of dynamic psychiatry, are identical. Both grief and depression are associated with the loss of an object. This object may be a person or may be in a more general sense, the loss of supplies which the patient has hoped to secure. At times depressed patients are not able to report the specific loss because this knowledge may not be available to them on a conscious level.

There are certain stages between normal grief reactions and full-blown depressions. Usually these stages are referred to as pathological grief reactions or morbid grief reactions. For the sake of simplicity in this paper, pathological grief reactions and depressions with a *known* lost object will be used interchangeably. These types of depressions are also known as "reactive depressions". Psychotic depressions, such as the depression in manic depressive psychosis, in which the lost objective is not readily apparent will not be discussed in this paper.

The understanding of grief which is an expected reaction to a distressing situation and which, at first glance, would not seem to be a medical or psychiatric disorder, is important for the following reasons: (1) Grief is a definite syndrome[1] with psychological and physiological components. Kollar[2] states that grief, like anxiety, can be fully comprehended only as a psychosomatic reaction. "Unfortunately, the physiological aspects of grief have been poorly studied as compared with the physiological aspects of anxiety and most of our data comes from subjective reports." Engel[3] views grief as a disease. (2) In certain cases, grief, if not managed well, can become pathological and turn into depression. For example, postponed grief may manifest itself as an "anniversary" depression years later after a minor loss. This means that the management of a grief reaction is quite important because going through a normal grief reaction is a prophylaxis against depression (economic value). (3) During disasters, like fire, floods, war, etc., which result in mass fatalities, the understanding and management of grief reactions becomes an important part of the general physical and mental health of the population. (4) "The sudden cessation of social interaction [grief] seems to be of special interest because it is often cited among the alleged psychogenic factors in psychosomatic disorders." [1] This observation has been corroborated by many others.[4,5,6] (5) The ob-

A modified version of this paper was read at a meeting on "Office Management of Emotional Disorders: Brief Techniques", on February 17-18, 1966, at The Homestead, Hot Springs, Virginia. This meeting was sponsored by the Division of Psychiatry, University of Virginia School of Medicine and supported in part by Training Grant No. HM 7892-04 from the National Institute of Mental Health, U.S. Public Health Service.

servation of grief reactions provides research opportunities for psychiatrists who are interested in testing certain psychodynamic theories on loss and restitution.

Symptomatology of Normal Grief in a Clinical Setting

In 1944 Lindemann[1] examined 101 patients suffering from acute grief. These patients included psychoneurotic patients who lost a relative during the course of their treatment, relatives of patients who died in the hospital, relatives of disaster victims and relatives of members of the armed forces who died during the war. According to Lindemann the picture shown by persons in acute grief is remarkably uniform. Lindemann's findings features of an acute normal grief reaction can be summarized as follows: (1) Sensations of somatic distress occurring in waves lasting from twenty minutes to one hour at a time. These sensations include mainly a sighing respiration, complaints of lack of strength, digestive symptoms which are described as follows: "The food tastes like sand", "I have no appetite at all", "I stuffed the food down because I had to eat", etc. (2) A feeling of increased emotional distance from other people. Sometimes other people appear small and shadowy and the patient suffers from a slight sense of unreality. (3) An increased preoccupation with the image of the deceased. (4) Strong preoccupation with feelings of guilt. The patient "searches the time before the death for evidence of failure to do right by the lost one." (5) An increased feeling of hostility. Patients respond with irritability and anger toward others. (6) Loss of patterns of conduct. For example there is a push of speech especially when talking about the deceased. There is restlessness and lack of capacity to initiate and maintain organized patterns of activity.

The Identification with the Lost Object

During his studies, Lindemann[1] also observed "the appearance of traits of the deceased in the behavior of the bereaved, especially symptoms shown during the last illness, or behavior which may have shown at the time of the tragedy". According to Lindemann this particular feature of grief appears in patients "who border on pathologic reactions".

Identification reactions to the loss of a loved one "are more than one person's unconscious imitation of the personality traits of another. These reactions serve a specific unconscious purpose and, dynamically, can be comprehended only in terms of the particular goal."[7] Example: A patient who experiences heart symptoms following his father's death from a coronary thrombosis. The purpose of this symptomatic identification is "to bring back the loved one and inflict punishment for having wanted the other's death".[7] Sometimes identifications with the lost one can be constructive. The patient takes up the activities and interests of the loved one. The purpose accomplished in this is that the patient, by becoming a "stand-in" for the lost person, triumphs over death by continuing life as though the loved one himself were there.[7] These identifications can be transient or more or less permanent. They depend on the course and outcome of the grief reaction.

The identification with the lost object, as will be seen soon, is included in the fundamental dynamic concept of grief and depression. Recently Krupp[7] stated that in spite of consistent agreement on the importance of identification with lost objects, the literature contains a surprising paucity of illustrative examples. Krupp goes on to give three illustrative cases of his own and at the same time makes a historical review of the reported examples. For example, "The first psychoanalytic patient, Anna O., developed symptoms when 'her adored father' became ill. After his death, she moved into a pathological mourning reaction, and it was recorded that when she looked into a mirror, it was not herself she saw but rather her father."

Beside Lindemann's observations and many scattered case examples in psychoanalytic and psychiatric literature, Wretmark,[8] in 1959 studied twenty-eight patients with acute grief reactions. Wretmark found that four patients out of twenty-eight assumed symptoms of the deceased. Parkes[9] in 1963 studied twenty-one patients (twenty with pathological reactions). He found that five patients developed symptoms resembling those suffered by dead persons during their terminal illnesses.

Fundamental Concepts for Grief and Reactive Depressions

From an historical point of view, Abraham[10,11] in 1911 and again in 1916 wrote two essays on the psychodynamics of depression. These two essays were followed by Freud's[12] essay, *Mourning and Melancholia* in 1917. Later Rado,[13] Lewin,[14] Jacobson,[15] and many other investigators elaborated and extended the fundamental concepts of Abraham and Freud. Here, with the help of figure drawings basic concepts for grief and depression will be *simplified*.

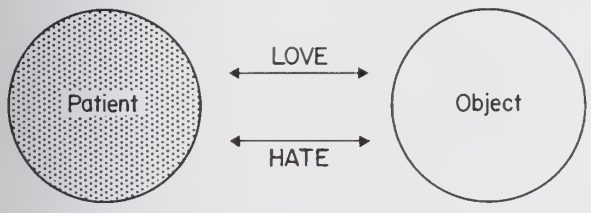


Fig. 1

In figure number one the relationship between a patient and an object is shown by two arrows; the arrows representing love and hate. According to dynamic psychiatry, after a very short time at the beginning of life, there is no such thing as a pure love or pure hate relationship, but rather in every relationship that has developed love and hate exist together. In psychiatry this is called ambivalence.

Figure number two indicates the loss of the object. The symptomatology of acute grief, which includes disbelief, unreality and denial, has already been described. When the person *tests the reality*, namely when he knows that the object no longer exists, he will try to keep the lost one alive in memory.

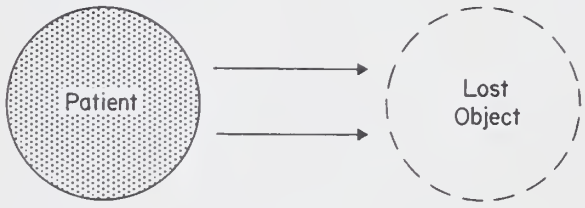


Fig. 2

The tie to the lost object is represented by hundreds of separate memories. The preoccupation with the memories of the dead person leads to a lack of interest in the outside world on the part of the patient who is suffering from grief.

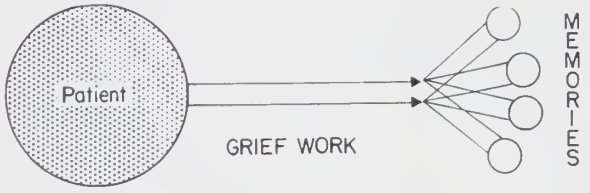


Fig. 3

The patient will also create a substitute object within himself after the real object has departed (identification with the lost object). The psychological *taking in* of

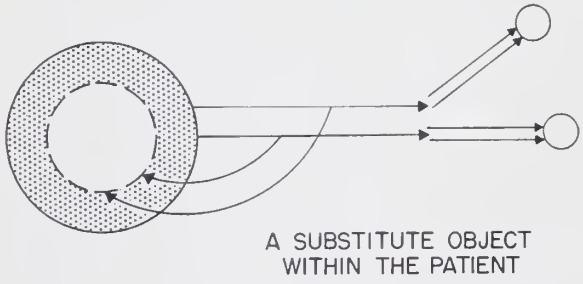


Fig. 4

the lost object usually is associated with the biological act of *eating*. From a psychodynamic point of view this explains why persons suffering from normal grief exhibit digestive symptoms such as those described by Lindemann.

If the patient is going through a normal grief reaction in time, he will loosen his ties with the substitute object within and with the memories evoked by this object. These processes so far described here are referred

to as "grief work". The essential part of this task is the testing of reality and the object detachment. At the end of the grief work the bereaved person becomes gradually once more free and uninhibited to seek fresh attachments.

During the grief work the object detachment takes place step by step and this task requires time and energy. In contrast, in depression this detachment is apparently rapidly withdrawn. The grief reaction becomes complicated and even pathological if the relationship of the mourner to the lost object happened to be an extremely ambivalent one.

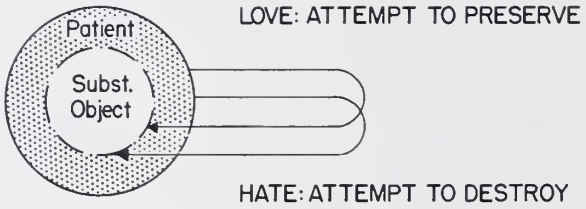


Fig. 5

The person will attempt to preserve the object, but also attempt to destroy it. The aggression that was once referred to the object has now been turned against the person. If the tension becomes too great and the patient wishes to kill the object, he may wish to kill himself and thus commit suicide, because now he cannot separate himself from the substitute object within.

In depression there are certain preconditions.[16] The grief reaction is likely to be more intense and to border or to develop into actual depression if: a. The lost object has not been loved on a mature level but rather has been used as a provider of narcissistic supplies. b. If the previous relationship has been highly ambivalent. c. If the grieved person shows extreme dependence on external supplies for self-esteem.

Management of Normal and Pathological Grief Reactions

In the management of grief it is of importance to be aware of the economic value of this reaction and that the physician, instead of suppressing the grief work should support it. The absence of grief upon the death of a loved one is an ominous sign. The reaction may come up as a depression somewhat later on. The physician should encourage expression of feelings and discharge of tears. In order to deal with the lost object, in addition to individual patterns of behavior, we have developed certain religious or other rituals which appear to be different from culture to culture. However close psychoanalytic investigation of these rituals[16,17] show them as attempts to deal with the common psychological components of grief such as identification and aggression. Therefore the mourner should be allowed to endulge fully in mourning rituals.

As Lindemann's study showed, the grief stricken person is hostile and irritable. His hostility may be "projected" on the physician who, by familiarizing himself with this symptom, may "absorb" this hostility without returning it to the patient.

The character of the grief work in part will depend upon the preparation of the person for the loss. An unexpected death is likely to produce a more disturbing grief than one in which the person has a time to accomplish the grief work before the loss actually occurred.

The family physician may be the first one to detect the early signs of a pathological reaction and developing depression after a known object loss. It is important to note that if a pathological reaction is developing, the person thinks of himself instead of the deceased. Grief is not associated with too great a sense of guilt or self-depreciation. If pathological grief develops the person starts finding himself unlovable, despicable, and very guilty.

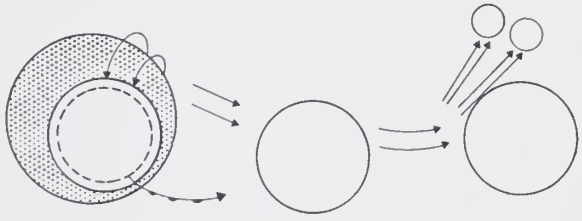
Bellak[18] suggests that when a depressed person visits a doctor's office, the doctor should try to get an exhaustive history on the onset of the chief complaints as soon as possible. A patient with a delayed pathological grief reaction may show up in a physician's office with many physical com-

plaints including problems with sleep, digestive system difficulties, menstrual changes, headaches, cardiovascular disturbances, etc. These physical symptoms are sometimes referred to as "depressive equivalents", but they are not usually substitutes for depression. The depression is usually obvious enough if the doctor will look for it. Exhaustive history taking is not, or need not be traumatic. On the contrary, if accomplished tactfully, the most persistent and detailed questioning will add to the patient's narcissistic gratification and will increase his rapport with the physician, rather than upset him.[18] The physician, after familiarizing himself with the basic concepts of grief and depression, should try to understand the precipitating factors for the current mental state that he finds in his patient. Some important questions for the physician to keep in mind as he takes his history are as follows: Is there an identifiable lost object, what was the relationship between the patient and his object before it was lost, is the patient a very dependent person, what was the patient's reaction at the time of the object loss?

Whenever grief is experienced in adulthood early mournings of previous times will be revived. If the patient's history puts some light on the similarities of relationships between the current situations and the past traumatic experiences, the physician may point out these similarities and relationships. However, one should avoid making premature interpretations if more basic problems are seen. If this happens, the family physician may want to ask for psychiatric consultation.

Bellak[18] suggests that offering the patient in grief or depression with a known lost object, a cigarette, candy, or a drink may be indicated.

When the lost object is "found" the physician may help the patient to go through a "re-grief work" by bringing up many memories in regard to the lost object. The physician should be supportive if the patient does not have the usual conventional thoughts and feelings about the lost object. Expression of hostility toward the lost object should be allowed. With the physician's help a person with a pathologic grief reaction may go through re-grief work, and be able to detach his investment from the lost object to free himself from severe guilt feelings and to search for new investments in other objects. Our conception of "re-grief work" as a relatively brief technique for the management of pathological grief reactions is shown in figure six.



ENCAPSULATION AND EXTERNALIZATION OF SUBSTITUTE OBJECT, RE-GRIEF WORK

Fig. 6

The management of the following case of pathological grief reaction is based on our ideas in regard to "re-grief work".

A Case of Pathological Grief Reaction and its Management with Brief Technique*

Mary, a teenager, was an average high school student. Her mother took her life by shooting herself through her head with a shotgun after sending Mary to a neighbor's house for an overnight stay. The next morning Mary was informed about the tragedy and she felt extremely guilty by thinking that if she were at home at the time she could have prevented her mother's death. The loss of the object was sudden. Mary could not go through a normal grief work. She could not loosen her ties with her "personality" and "symptomatic" identifications.[7] She carried on with her father some of the fights that her mother and father had had in earlier times and also adopted some of her mother's mannerisms.

*This case was treated by Dr. Robert Showalter, from the Department of Neurology and Psychiatry, University of Virginia Hospital, Charlottesville, Va.

On the second anniversary night of her mother's death, Mary attempted to blow out her brains in the same manner as her mother had done, with the same gun. As a clinical clue to her identification with her mother this patient reported that at the moment she pulled the trigger, she was wondering how her mother had felt at the time she killed herself. Fortunately the gun did not go off and Mary was brought to the University of Virginia Hospital.

During two months the following steps were taken for brief psychotherapy. After an exhaustive history was taken a lost object (mother) became known by the physician. Mary, at this point, was not aware that her behavior had a lot to do with the behavior of her mother. Mary was "pushed" to focus on the lost object. She was made to go over and over describing her mother and her memories about her. She was supported when her angry feelings came up. On the other hand tears were permitted. She was helped to differentiate her feelings and mannerisms from the ones which belonged to her dead mother. She was encouraged to visit her mother's grave, under supervision, and later to report the reality to her physician in that her mother actually was dead. By these procedures, *the mother within,* in a sense, was put into a capsule, was externalized and then Mary was able to deal with the dead mother in a more realistic way. In a sense she went through a "re-grief work" and loosened her ties with the lost object to free herself, to a great extent, for investments in other objects.

Summary

In this paper normal and pathological grief reactions are described and with the help of some figure drawings the basic concepts for grief and depression are *simplified.* Grief is the emotional response to the loss of an object of gratification. If grief is denied or avoided it may manifest itself with a variety of morbid reactions years later after a minor loss. Some suggestions for the management of normal and pathological grief reactions are offered.

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Medical Fee Bills

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The doctors fee has always been of great interest to both the profession and the public.

HENRY E. SIGERIST wrote in 1936 that "Fee bills issued by medical organizations represent extremely important sources for the history of medical economics and the history of medicine at large. They tell us what the cost of medical services was at a definite time in a definite region and, on the other hand, they inform us about the operations and other procedures commonly performed at the time." Another author commented as follows: "Medical fees constitute an index of the training of the profession at any given period, and of the standing of its members in the esteem and confidence of their own community."

In view of the acknowledged importance of the role of medical fees in the history of medicine the discovery of an ante-bellum fee bill which has not as yet been mentioned in the medical literature may be of sufficient interest to warrant a brief review of the topic. The fee bill in question was drawn up in Charlottesville, on June 9, 1848. It is entitled "Agreed Rate of Medical Charges" and bears the signatures of twelve practicing physicians of Charlottesville. A copy of the bill was donated to the Medical Library of the University of Virginia by a descendant of one of the signers. (Fig. 1)

17th and 18th Century Virginia Practice Acts and Fee Bills

Physicians' fees seem to have been subject to regulation either by State action, or by collective agreement of physicians themselves during the colonial period of Virginia's history.

In 1639 the Virginia Assembly enacted the first of a series of practice acts which were followed by several others in 1645/46, 1657/58, and 1661/62. The bills provided that physicians could be arrested on complaints of having levied unreasonable charges. The courts were to decide as to whether such fees had been exorbitant. Moreover, if neglect could be shown, or if it was proved that the physician had refused to come to the aid of a sick person, the court could censure the physician.

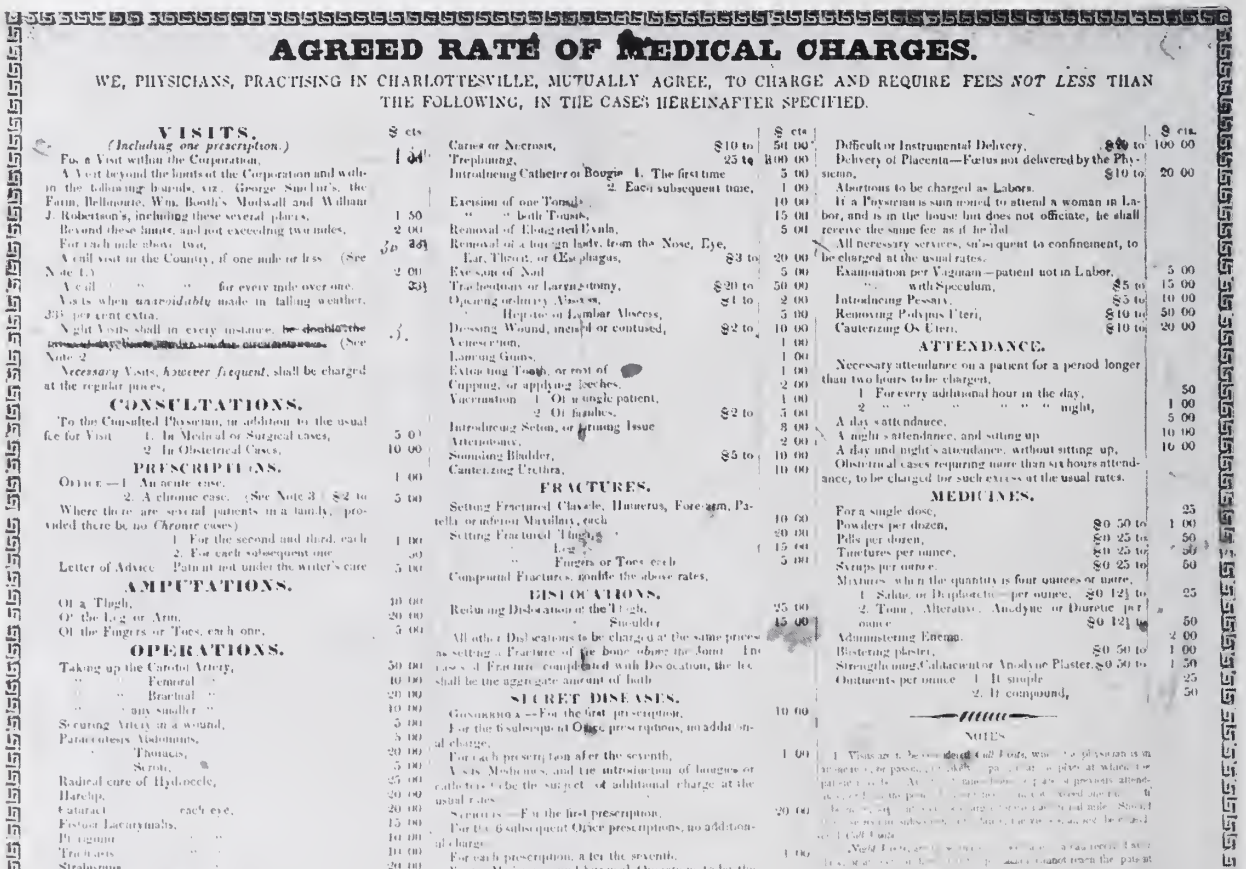
According to Wyndham B. Blanton, the reason for the bills were complaints by colonists concerning "excessive rates and prices" charged by physicians and surgeons. In some cases fees charged for services to servants and slaves were said to be higher than the cost of these servants and many "hard hearted masters" found it less expensive to let their servants die without medical care, than to call a doctor. Blanton found that although life in 17th century Virginia was characterized by "little real wealth" and "a general lack of opulence, . . . the doctors and chirurgeons of the century demanded and received substantial fees —fees that astonish us when translated into present day values." He estimated that the 17th century physician's annual income was between $4,000 and $6,000 and that he was usually paid in tobacco.

The successive enactment of these acts gives reason to believe, according to Blanton, that the 17th century practice acts were not effective in curbing excessive fees, nor that the grade of medical services was improved by such legislation.

Blanton reported that during the 18th

century, "the public . . . was still conscious of wide variations in the quality of available medical service and sensitive to the high cost of medical attention." Consequently in 1736, or one year before the town of Richmond was laid off by Colonel Byrd, the the suppression of polypharmacy, or excessive drugging, and the use of secret remedies.

The 1736 fee bill sheds some light on medical practices of the time. According to the preamble it appears that "the great



AGREED RATE OF MEDICAL CHARGES.

WE, PHYSICIANS, PRACTISING IN CHARLOTTESVILLE, MUTUALLY AGREE, TO CHARGE AND REQUIRE FEES *NOT LESS* THAN THE FOLLOWING, IN THE CASES HEREINAFTER SPECIFIED.

VISITS.
(Including one prescription.)

	$ cts
For a Visit within the Corporation,	1 00
A Visit beyond the limits of the Corporation and within the following bounds, viz. George Sinclair's, the Farm, Belhonnie, Wm. Booth's Monticell and William J. Robertson's, including these several places,	1 50
Beyond these limits, and not exceeding two miles,	2 00
For each mile above two,	50
A call visit in the Country, if one mile or less (See Note 1.)	2 00
A call " " " for every mile over one.	33⅓
Visits when unavoidably made in falling weather, 33⅓ per cent extra.	
Night Visits shall in every instance, be double the [illegible] (See Note 2	
Necessary Visits, however *frequent*, shall be charged at the regular prices,	

CONSULTATIONS.

To the Consulted Physician, in addition to the usual fee for Visit 1. In Medical or Surgical cases,	5 00
2. In Obstetrical Cases,	10 00

PRESCRIPTIONS.

Office.—1. An acute case.	1 00
2. A chronic case. (See Note 3.)	$2 to 5 00
Where there are several patients in a family, provided there be no *Chronic* cases)	
1. For the second and third, each	1 00
2. For each subsequent one	50
Letter of Advice Patient not under the writer's care	5 00

AMPUTATIONS.

Of a Thigh,	50 00
Of the Leg or Arm,	20 00
Of the Fingers or Toes, each one,	5 00

OPERATIONS.

Taking up the Carotid Artery,	50 00
" " Femoral "	10 00
" " Brachial "	20 00
" " any smaller "	10 00
Securing Artery in a wound,	5 00
Paracentesis Abdominis,	5 00
" Thoracis,	20 00
" Scroti,	5 00
Radical cure of Hydrocele,	25 00
Harelip,	20 00
Cataract each eye,	20 00
Fistula Lacrymalis,	15 00
Pterygium "	10 00
Tracheotomy "	10 00
Strabismus "	20 00
Removing Polypus Nasi each tumor	5 00
Fistula in Ano 1. A single sinus	20 00
2. each additional sinus opened at the same setting	5 00
Blind external Fistula, *not* requiring division of the gut	5 00
Fistula in Perineo $30 to	50 00
Reducing an strangulated Hernia by Taxis,	5 00
" Strangulated " "	10 00
Operation for Strangulated Hernia, $50 to	100 00
Excision of Tumor or Wen, $5 to	50 00
" Cancer, $20 to	50 00
Removal of Female Mamma,	50 00

Caries or Necrosis, $10 to	50 00
Trephining, 25 to	100 00
Introducing Catheter or Bougie 1. The first time	5 00
2. Each subsequent time,	1 00
Excision of one Tonsil,	10 00
" " both Tonsils,	15 00
Removal of Elongated Uvula,	5 00
Removal of a foreign body from the Nose, Eye, Ear, Throat, or Œsophagus, $3 to	20 00
Excision of Nail	5 00
Tracheotomy or Laryngotomy, $20 to	50 00
Opening ordinary Abscess, $1 to	2 00
" Hepatic or Lumbar Abscess,	5 00
Dressing Wound, incised or contused, $2 to	10 00
Venesection,	1 00
Lancing Gums,	1 00
Extracting Tooth, or root of	1 00
Cupping, or applying leeches,	2 00
Vaccination 1. On a single patient,	1 00
2. On families, $2 to	5 00
Introducing Seton, or forming Issue	3 00
Arteriotomy,	2 00
Sounding Bladder, $5 to	10 00
Cauterizing Urethra,	10 00

FRACTURES.

Setting Fractured Clavicle, Humerus, Forearm, Patella or inferior Maxillary, each	10 00
Setting Fractured Thigh,	20 00
" Leg,	15 00
" Fingers or Toes each	5 00
Compound Fractures, double the above rates.	

DISLOCATIONS.

Reducing Dislocation of the Thigh,	25 00
" Shoulder	15 00
All other Dislocations to be charged at the same prices as setting a Fracture of the bone above the Joint. In cases of Fracture complicated with Dislocation, the fee shall be the aggregate amount of both	

SECRET DISEASES.

Gonorrhœa.—For the first prescription,	10 00
For the 6 subsequent Office prescriptions, no additional charge,	
For each prescription after the seventh,	1 00
Visits Medicines, and the introduction of bougies or catheters to be the subject of additional charge at the usual rates.	
Syphilis.—For the first prescription,	20 00
For the 6 subsequent Office prescriptions, no additional charge,	
For each prescription, after the seventh,	1 00
Visits, Medicines, and Surgical Operations to be the subjects of additional charge at the usual rates.	
For the treatment of Organic Stricture of the Urethra, $25 to	50 00
In the treatment of Surgical cases Visits, attendance &c., will be the subject of separate charge, at the established rates	

OBSTETRICS.

Delivering a White woman of a single child,	20 00
Delivering a Black woman of a single child,	10 00
Delivering a White woman of Twins	30 00
" Black " " "	20 00

	$ cts
Difficult or Instrumental Delivery, $20 to	100 00
Delivery of Placenta—Fœtus not delivered by the Physician, $10 to	20 00
Abortions to be charged as Labors.	
If a Physician is summoned to attend a woman in Labor, and is in the house but does not officiate, he shall receive the same fee as if he did.	
All necessary services, subsequent to confinement, to be charged at the usual rates.	
Examination per Vaginam—patient not in Labor,	5 00
" " with Speculum, $5 to	15 00
Introducing Pessary, $5 to	10 00
Removing Polypus Uteri, $10 to	50 00
Cauterizing Os Uteri, $10 to	20 00

ATTENDANCE.

Necessary attendance on a patient for a period longer than two hours to be charged,

1. For every additional hour in the day,	50
2. " " " " night,	1 00
A day's attendance,	5 00
A night's attendance, and sitting up	10 00
A day and night's attendance, without sitting up,	10 00

Obstetrical cases requiring more than six hours attendance, to be charged for such excess at the usual rates.

MEDICINES.

For a single dose,	25
Powders per dozen, $0 50 to	1 00
Pills per dozen, $0 25 to	50
Tinctures per ounce, $0 25 to	50
Syrups per ounce, $0 25 to	50
Mixtures when the quantity is four ounces or more,	
1. Saline or Diaphoretic—per ounce, $0 12½ to	25
2. Tonic, Alterative, Anodyne or Diuretic per ounce $0 12½ to	50
Administering Enema.	2 00
Blistering plaster, $0 50 to	1 00
Strengthening, Cathartic or Anodyne Plaster, $0 50 to	1 50
Ointments per ounce 1. If simple	25
2. If compound,	50

NOTES

1. Visits are to be considered Call Visits, when the physician is requested to pass [illegible] place at which the patient resides. At [illegible] intervening [illegible] attended [illegible] the [illegible] several miles. Should [illegible] subsequent [illegible] the usual rate of 1 Call Visits

Night Visits [illegible] a case [illegible] cannot reach the patient [illegible]

Chronic Diseases, and subject to the [illegible] the [illegible] table [illegible] [illegible] [illegible]

in England, boldly entered the field of practice in competition with the physicians, instead of confining themselves to the humbler duty of compounding prescriptions for the latter; . . . and finally, that doctors' bills were quite as much complained of then as now (perhaps with more justice)." The foregoing quotation is part of a comment by Dr. L. S. Joynes, Emeritus Professor of Physiology in the Medical College of Virginia, which was read before the Richmond Academy of Medicine, on December 19, 1876.

Dr. Joynes also noted with reference to the 17th century acts mentioned above that the "doctors of the colony were, from a very early period, subjected to legal censure and restraint in the matter of excessive charges." Speaking of the 1736 fee bill he wrote, "Though limited by the terms of the act to little more than two years, it is probable that it continued to be generally observed for a much longer period; for in following the legislation of the colony down to the beginning of the Revolutionary War, I find no further allusion to the subject." It is doubtful whether Dr. Joynes' conclusions were correct. All that is known is that the 1736 fee bill was to remain in force for little more than two years and that similar bills were presented to the Burgesses in 1748, 1761, and 1762 without being enacted into law.

18th Century Voluntary Fee Bills

Attempts to regulate charges for medical services during the late 18th and the 19th century were largely in the form of fee bills resulting from voluntary agreements among practicing physicians in a certain locality.

One of the earliest voluntary fee bills was established by the New Jersey Medical Society, at New Brunswick, on July 23, 1766. The preamble to the bill is of particular interest inasmuch as it explains in great detail the reasons for the bill, one being that "fees or rewards are not regularly settled by law." The members agreed to keep their accounts according to the rates laid down in the bill "till the Legislature shall interpose, or some other happier method be devised for determining a matter so interesting both to the public and the profession."

Another early fee bill was that of the Boston Medical Society, of December 7, 1785. On that day a committee "appointed to regulate the fees of practitioners of physic in this town" reported its findings to the membership. Other 18th century fee bills include one of the Massachusetts Medical Society, of about 1791, and the first list of charges of New York State physicians, adopted in 1790 and reissued in terms of American currency in 1798.

The 1848 Charlottesville Fee Bill

The agreement of Charlottesville physicians of June 9, 1848, "to charge and require fees not *less* than" those specified in the fee bill, therefore, has ample precedents. Like other fee bills, it is divided into such chapters as "Visits", "Consultations", "Prescriptions", "Amputations", "Operations", "Fractures", "Dislocations", "Secret Diseases", "Obstetrics", "Attendance", and "Medicines". As was customary, charges for visits were given in some detail, their prices varying with regard to the distance from the town, and whether they were made by day or night. Other factors were also accounted for. For example, the fee bill stipulated that "Visits when *unavoidably* made in falling weather" would cost "33 1/3 per cent extra."

This being the age when physicians often would sit up with their patients throughout the day and night, the schedule contained special rates under the heading "Attendance". "A day's attendance", according to the schedule, was $5.00, while "A night's attendance, and sitting up" was $10.00. "A day and night's attendance, without sitting up", on the other hand, was only $10.00.

A term not commonly found in fee bills of the day was "Secret Diseases". It re-

ferred to the treatment of "gonorrhoea" and syphilis. Another interesting detail is found under "Obstetrics". "Delivering a White woman of a single child" was twice as expensive ($20.00) as "Delivering a Black woman". The delivery of twins cost $30.00 as compared with "Delivering a Black woman of Twins", which was only $20.00. Price differentiations for various classes of people in fee bills have been known throughout the ages. As a matter of fact, the Code of Hammurabi (2250 B.C.), which was probably the first fee bill in medical history, "has the distinction of making one price for gentlemen and another for the poor and slaves." On the other hand, fee bills of Richmond, Virginia (1850), and of Powhatan County, Virginia (1853), do not distinguish between white and colored obstetrical patients.

In the following a comparison will be attempted between some of the charges listed in the Charlottesville schedule and those contained in similar fee bills from four other localities, including two of Virginia. They are: Alleghany County, Pennsylvania (1848), which will be referred to as the Pittsburgh fee bill, Philadelphia (1848), Richmond, Virginia (1850), and Powhatan County, Virginia (1853).*

Visits and Consultations

Visits within the community ranged from $1.00 in Richmond and Powhatan County to from $5.00 to $10.00 in Philadelphia. The Charlottesville schedule also stipulated a fee of $1.00 for one visit "within the Corporation", however, on the copy in the custody of the Medical Library that figure was changed by ink to $1.50. Inasmuch as it is not known when this change was made, one may conclude that the regular fee for a visit within town, in 1848, was also $1.00. The Pittsburgh physicians charged $2.00 for the first visit and $1.00 for each succeeding one.

Night visits, according to the Charlottesville chart, were to be double the rate of the day calls, or $2.00. Here too a change was made after the original chart was printed, because there is $5.00 written in for night visits. Five dollars seem to have been the charge for similar services in Pittsburgh and Richmond ("Between 10 P.M. and sunrise"). Again, as in the case of day calls, Philadelphia rates were higher than those in the other communities surveyed, being from $5.00 to $10.00. Powhatan County night visits were between $2.00 and $4.00.

It is noteworthy that consultations were the same in all the five areas, namely $5.00, except that the Charlottesville schedule provided that the "Consulted Physician" should receive $10.00 in obstetrical cases. Moreover, these fees were to be in addition to the usual charge for the visit.

Amputations

No unanimity ranged with regard to charges for amputations of various extremities. As usual Philadelphia headed the list. Amputations in that city at the shoulder or hip joint cost between $100.00 and $200.00. Amputations of a leg or arm were $50.00, and of a finger or toe $10.00. The fees for similar work in Charlottesville were drastically lower. Here amputations of a leg or arm were $20.00, and of the fingers and toes ("one each") $5.00. Amputations of a thigh were, however, $40.00. The fees in the other areas were somewhat higher than the Charlottesville rates, but considerably less than in Philadelphia. It may be noted that the amputation of a penis was priced at between $20.00 and $50.00 in Richmond.

Operations

The following operations and charges may be found in the various schedules:

Harelip: $20.00 in Charlottesville and Pittsburgh, $20.00 to $50.00 in Philadelphia and Richmond.

*See Appendix I.

Charlottesville, Va., 1848

Visit within Corporation	$ 1.50
Night visits	$ 5.00

Consultations

In Medical or surgical cases	$ 5.00
In Obstetrical cases	$10.00

Amputations

Of a thigh	$40.00
Of the Leg or Arm	$20.00
Of the Fingers or Toes (one each)	$ 5.00

Operations

Harelip	$20.00
Removal of female mamma	$30.00
Trephining	$25.00 to $100
Excision of one tonsil	$10.00
Both tonsils	$15.00
Cupping, or applying leeches	$ 2.00
Vaccination	$ 1.00

Fractures

Setting fractured thigh	$20.00
Setting fractured leg	$15.00
Setting fractured fingers or toes (each)	$ 5.00
Compound Fractures double above rates.	

Dislocations

Reducing dislocation of the thigh	$25.00
of the shoulder	$15.00

Obstetrics

Delivering a white woman of a single child	$20.00
a Black woman	$10.00
White woman (twins)	$30.00
Black woman (twins)	$20.00

Alleghany County, Pa., 1848

First visit,	$ 2.00
each succeeding visit	$ 1.00
Night visits	$ 5.00

Consultation (with or without a visit) $ 5.00

Amputation

at the thigh	$30.00
at the leg	$30.00
at the finger or toe	$20.00

Operations

Hare-lip	$20.00
Extirpation of mamma	$30.00
Trephining	$50.00
Excision of tonsils	$10.00
Application of moxa	$ 2.00
Vaccination	$ 5.00

Fractures

Adjusting, and dressing, thigh	$20.00
compound	$30.00
leg, simple	$10.00
compound	$20.00

Dislocations

Reduction of luxation of thigh	$50.00
of clavicle	$15.00

Obstetrics

Ordinary delivery $20.00

Philadelphia, Pa., 1848

Single visit etc.	$5.00 to $10.00
Night visits	$5.00 to $10.00
First visit as *Consulting*	$ 5.00

Amputation

At the shoulder or hip joint	$100 to $200
Of a leg or arm	$50.00
Of a finger or toe	$10.00

Operations

Hare lip	$20.00 to $50.00
Extirpation of large tumors	$50.00 to $100
Trepanning	$50.00 to $100
Tonsils	$10.00 to $20.00
Vaccination	$ 5.00

Fractures

For reducing fractures and the first dressing $10.00 to $20.00

Dislocations

For reducing recent luxations $10.00 to $30.00

Obstetrics

For a case of midwifery $10.00 to $40.00

Richmond, Va., 1850

A visit in the city	$ 1.00
Btw. 10 P.M. and sunrise	$ 5.00
Ordinary *consultations*	$ 5.00

Amputation

of superior or inferior extremities	$40.00 to $100
of finger, thumb, or toe	$10.00 to $30.00
of penis	$20.00 to $50.00

Operation

Harelip	$20.00 to $50.00
Extirpation of mamma	$20.00 to $100
Application of trephine	$50.00 to $100
Cupping	$ 2.00 to $ 5.00
Vaccination of one white	$ 3.00
of single slave	$ 2.00

Fractures

Treating fractures, including dressing and attendance $20.00 to $100

Dislocations

Reduction of luxations of greater joints	$20.00 to $100
of lesser joints	$10.00 to $20.00

Obstetrics

Attendance on simple natural cases of labor, and attention for eight days after delivery, provided no serious ailment occurs to mother or infant (in which case visits are to be charged) $20.00

Powhatan County, Va., 1853

Visit at home, or in a village	$ 1.00
Visits after 10 o'clock at night, at home or in a village	$2.00 to $ 4.00

Consultation fee to the consulting physician $ 5.00

Amputations

of a leg or thigh	$20.00 to $50.00
of arm or forearm	$20.00 to $30.00
of finger or toe	$10.00

Operations

Extirpating cancerous mamma	$25.00 to $50.00
Application of trepline	$20.00 to $50.00
Extirpating tonsils	$10.00
For cupping or leeching	$ 2.00
(Vaccination not mentioned.)	

Fractures

Treating fractures of thigh	$25.00
Treating fractures of arm or leg	$15.00 to $20.00
Treating fractures of finger or toe	$ 5.00

Dislocations

Reduction of luxations, to be charged as fractures—extraordinary cases	$25.00 to $50.00

Obstetrics

Delivery, exclusive of visit and attendance	$20.00

Removal of female mamma, or *Extirpation of mamma:* $30.00 in Charlottesville and Pittsburgh, $20.00 to $100.00 in Richmond, and $25.00 to $50.00 in Powhatan County. Philadelphia fees for extirpating of large tumors ranged from $50.00 to $100.00.

Trephining: Lowest charge for "application of trephine" was found in Powhatan County which ranged from $20.00 to $50.00. This operation cost $50.00 in Pittsburgh and from $50.00 to $100.00 in Philadelphia and Richmond. The Charlottesville fee for trephining was from $25.00 to $100.00.

Tonsillectomy: An unexpected unanimity of fees was found for removal of tonsils which cost $10.00 or from $10.00 to $20.00 in the areas under review. In Charlottesville a distinction was made between excision of one tonsil ($10.00), and both $15.00).

Cupping or Applying Leeches: No mention is made of this "operation" in either the Philadelphia or the Pittsburgh schedules, although the latter included a charge of $2.00 for "Application of moxa." Cupping or leeching cost $2.00 in Charlottesville and Powhatan County, and from $2.00 to $5.00 in Richmond (where cupping only is mentioned).

Vaccination: Vaccination is another operation included in most schedules. A single patient paid $1.00 in Charlottesville, while an entire family was charged from $2.00 to $5.00. In Pittsburgh and Philadelphia the charge was $5.00. The Richmond schedule provided a charge of $3.00 for one white person, $5.00 for two at the same time, and $1.00 for additional members of a white family. Slaveholders were charged $2.00 for one slave and $1.00 for each additional slave being vaccinated at the same time. A fee bill of the Georgia Medical Society of 1863 had the following tariffs for vaccinations: "Whites—$5.00; Blacks—$3.00; Slaves, per dozen—$24.00."

Fractures

There are detailed schedules for setting fractured thighs, legs, fingers, and toes, and reducing dislocations, or reduction of luxations, as they were sometimes called. Again there were fairly wide variations in charges, ranging from $20.00 to $100.00 for "reduction of luxations of greater joints" in Richmond, to $25.00 for reducing dislocation of the thigh in Charlottesville.

Obstetrics

Mention has been made of the Charlottesville rates for delivering white and colored children, respectively. It appears that an ordinary delivery, or attendance on simple natural cases of labor, cost $20.00 in most areas. Again the Philadelphia schedule varied from the others under review by stipulating that from $10.00 to $40.00 were to be charged for "a case of midwifery".

Reasons Behind Voluntary Fee Bill Agreements

Occasionally fee bills contained explanatory statements setting forth reasons for their adoption. The New Jersey bill of July 23, 1766, mentioned above, enumerated various conditions which motivated the members of the Medical Society to pass such an act. Inasmuch as the adoption of many other fee bills may have been motivated by similar considerations, some excerpts from the New Jersey bill are given below:

(1) *Difficulty and Dangers of the Profession:* The preamble stated that the profession "not only deprives them [the practitioners] of many comforts and indulgences, which persons in other offices of life enjoy, by being at the call of any one, day and night, but also exposes them to many disagreeable scenes and often to great dangers from contagious diseases, etc." It may be added here that a "Bill of Charges" adopted by the physicians of Grayson County, Texas, in May, 1858, also referred to "the

slavish drudgery, which physicians are called upon to perform, . . ."

(2) *Education and Training for the Profession:* Another reason for the adoption of the New Jersey fee bill, according to the preamble, was ". . . the great expense of education, and the many painful years to be employed in preparatory studies, as well as that of the science itself . . ."

(3) *Need for Uniform Charges:* A third consideration, finally, related to the fact that practitioners' fees or rewards "are not regularly settled by law or custom, and that many inconveniences arise from such a defect and the consequent vague and indeterminate mode of practitioners charging for their services." This point is also stressed in Dr. George Rosen's article on the subject which said: "It is clear that the fee bill was an instrument by means of which the medical profession desired to standardize charges for medical service. The establishment of such a standard would enable the physicians to settle his accounts with his patients more regularly."

Effectiveness of Voluntary Fee Bills in Regulating Charges

In reviewing the subject one is struck by the apparent inefficacy of the bills. There is some doubt whether the colonial practice acts and fee bills were strictly enforced. Similarly it is questionable whether the voluntary price-fixing agreements were generally obeyed. One doctor, for example, speaking to a Dental Association of Northern New Jersey, in 1884, said: "Physicians have a fee-bill, or scale of prices, but they seldom adhere to it, and with most practitioners it is a dead letter."

A factor which may have detracted from rigid compliance with the bills was stipulations permitting physicians to reduce their charges "from considerations of charity." A clause to that effect was found in the Charlottesville fee bill and in many others as well. Moreover, many fee bills, such as the Richmond and Powhatan County ones, adopted a sliding scale of charges for various services. A Boston fee bill of 1861 also contained such a scale. An editorial writer of the *Boston Medical and Surgical Journal* commented that it "was plainly impossible to fix anything more than a proximate standard of charges."

Summary and Conclusions

A short review of the history of medical fees reveals that medical charges have frequently been the subject of regulation, either by legislative decree, or by voluntary agreement of members of local medical societies. In Virginia, for example, a practice act was enacted in 1639, and in 1736, the Virginia Burgesses enacted the first fee bill. Ostensibly aimed at curbing "excessive fees and prices" the legislative enactments were soon followed by voluntary price-fixing agreements. One of the first on record is that of the New Jersey Medical Society which was agreed on at a general meeting in New Brunswick, on July 23, 1766. This "Table of Fees and Rates" stated, among other things, that the practitioners of the Society would "bind and oblige themselves at all times hereafter to keep their accounts according to the rates therein settled and ascertained, till the Legislature shall interpose, . . ." From this statement it may be concluded that the regulation of medical charges by legislative action was not an unexpected or unusual development during colonial times. The last fee bill to be introduced in the Virginia Assembly was in 1762 and there is no indication that the regulation of physicians' fees by legislative action was tried after the Revolution.

The discovery of yet another fee bill, that of Charlottesville, of 1848, has prompted an analysis of various schedules of this and other fee bills of the period. In particular, the fee bills of Alleghany County, Pennsylvania, including Pittsburgh, of 1848, Philadelphia (1848), Richmond, Virginia (1850), and of Powhatan County, Virginia (1853), were compared. The bills give a

good impression of the diseases and conditions which were treated by practitioners during those ante-bellum years, of some of the medicines and drugs which were prescribed, and of the charges which were levied for such services and medicines.

The charges or fees set forth in the bills varied considerably from place to place, although Philadelphia fees appeared considerably higher than those in the other localities. Considering living costs, however, most medical charges even in Southern rural areas such as Charlottesville and Powhatan County seemed high, if compared with medical fees of more recent times. Some investigators exploring medical charges during colonial times and during the ante-bellum years found that medical costs had not changed significantly in two hundred years.

There is evidence that voluntary fee bills were not strictly adhered to. Nevertheless, it may be assumed that these agreements among practitioners setting prices for medical services played an important role in the history of medical economics. Many medical societies had their respective fee bills to which each member subscribed when he or she joined the group and much time and discussion was spent setting up the schedules and amending them when changes in living costs or other factors warranted such alterations. The bills also contained clauses calling for punitive action should members fail to adhere to the charges. The 1850 Richmond "Tariff of Fees" stated: "In case any one should transgress these rules, he shall be considered beyond the pale of the profession, and all consultations withheld. We will refuse to hold medical communion with those who may themselves consult with such persons knowingly." Similarly, the 1853 Powhatan County fee bill stated: "Resolved, we will not consult with any physician, who will not strictly conform to all requisitions of said code."

An editorial comment in a Cleveland medical journal of 1886/87 on medical fee bills may be a fitting conclusion to this study: "Fee-bills when adopted by medical societies as a rule we believe have been beneficial, as they have raised the standard of fees, although they have often been of great disadvantage to a few of the most conscientious members of the profession who have attempted to live up to the spirit as well as the letter of the bill, and this fact has been taken advantage of by the unscrupulous members of the profession to further their own selfish ends."

Editor's Note: A list of references may be obtained from the author.

School of Medicine
University of Virginia
Charlottesville, Virginia

Study of Patients with Chronic Lymphocytic Leukemia

The cooperation of physicians is requested in a continuing study of chronic lymphocytic leukemia, including therapy in patients with this disorder, being conducted by the Medicine and Radiation Branches of the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Referrals of selected patients, particularly those with high circulating lymphocyte counts, are needed.

Physicians interested in having their patients considered for the study may write or telephone: Ralph E. Johnson, M.D., Clinical Center, Room B1B-41B, National Institutes of Health, Bethesda, Maryland 20014. Telephone: 656-4000, Ext. 65457 (Area Code 301).

Clinicopathological Conference . . . .

Renal Failure in a 51 Year Old Female

Prepared and Edited by

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DISCUSSANTS:

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Clinical History

The patient was a 51 year old Negro female who was admitted to the Medical College of Virginia Hospitals with a complaint of intractable vomiting of three to four days duration. She had complained of dizziness and easy fatiguability for three months but had had only occasional vomiting until a month prior to admission when she began to vomit all solid foods. There had been no hematemesis. She had had early satiety, a "horrible taste" in her mouth, and a weigh loss of 20 pounds. She had passed a tarry stool just before admission.

Past medical history was negative except for excessive weight gain and edema with each of four pregnancies.

Review of systems was negative except for lumbar back pain of several years duration.

Physical examination included the vital signs of BP 180/100, P. 80, R. 24 and T. 99°. The patient was an obese, middle aged woman in no acute distress. Her fundi showed Grade I hypertensive changes. The cardiac apical impulse was diffuse in the 5th left interspace just to the left of the midclavicular line. The cardiac rhythm was regular. A Grade II systolic murmer was heard at the apex. Her lungs were clear. The liver was enlarged and palpable 3-4 cm. below the right costal margin. There was 1+ pretibial edema. Neurological examination was normal. A pelvic examination noncontributory. Rectal examination was negative except for black guaiac positive stools.

Laboratory data included an alkaline urine with a specific gravity of 1.010 and a 2+ albuminuria. Glucose and acetone tests were negative. Microscopic examination showed many WBC/hpf, 10-15 RBC/hpf and frequent waxy casts. The hemoglobin was 8.4 gm/100 ml. blood, WBC 12,800/mm^3 with 78% neutrophils, 21% lymphocytes and 1% monocytes. The blood sugar was 110, BUN 57 and creatinine 10 mg. per 100 ml. Electrolyte studies included serum sodium of 134, potassium 4.3, chlorides 107 and CO2 combining power 11 mEg/l. Serum amylase was less than 50 S. U., BSP 8%, total bilirubin 0.2 with 0.05 direct reacting, cephalin flocculation 0, thymol turbidity 2, alkaline phosphatase 1.4 B.L.U. Serum cholesterol was 280 mg./100 ml. Three LE preparations were negative. Hemoglobin electrophoresis demonstrated normal "A" hemoglobin. The serum protein was 5.9 gm. Serum protein electrophoretic pattern: albumin 42%, alpha$_1$ 10.7%, alpha$_2$ 17.8%, beta 20.7%, gamma globulin 8.8%. Twenty-four hour urine protein 6.4 gm. Electrophoresis of urine protein showed essentially the same pattern as the serum. Twenty-four hour urine electrolyte concentration: sodium 33, potassium 14, and creatinine 48. A serum calcium was 8.6, serum phosphorus 11.2. The urine was negative for copro-porphyrins. A hair specimen was negative for

arsenic. Urine cultures yielded no significant growth.

The peripheral smear showed normocytic normochromic erythrocytes, rouleauz formation, slight polychromasia. Plentiful platelets. A marrow aspirate was thought to be compatible with multiple myeloma.

An EKG showed low T waves and a slightly prolonged QT interval.

Chest x-ray and a bone survey were normal. Barium enema, upper G.I. series and gallbladder series were normal. Planograms of the kidneys were unsatisfactory as was an infusion nephropyelogram. An IVP showed no function at 1½ hours.

A liver scan showed hepatomegaly and irregular uptake, suggesting space-occupying lesions.

Sigmoidoscopy was negative and a rectal biopsy showed normal rectal mucosa.

The patient bled profusely from the rectal biopsy site and required two transfusions following which her hemoglobin rose to 11 gm.%. Her BUN rose to 80 despite an adequate fluid intake with no change in her electrolyte pattern. She had two right-sided seizures on 4/2/65 without subsequent residual neurologic signs. An EEG revealed no localizing lesion.

Her vomiting ceased and her fluid intake continued to be good despite chemical evidence of progressive renal failure. She was discharged on 4/10/65 on Dilantin and sodium bicarbonate but had to be readmitted on 4/17/65 because of shortness of breath and increasing edema.

Physical examination: BP 170/110, P. 110, R. 22, T. 100°. In addition, to her previous findings there was neck vein distention present when the patient was raised to a 45° angle, slightly wheezing respirations, moist rales at both bases, and slight enlargement of the heart which had a gallop rhythm. Her edema was more extensive than on the previous admission.

Laboratory data: The urine was alkaline and had a specific gravity of 1.020 and 3+ albuminuria. Many WBC-hpf were seen on microscopic examination. Urine cultures grew Klebsiella-Aerobactor group and Staphylococcus aureus, coagulase positive. The hemoglobin was 8.4 gm./100 ml. of blood; WBC 12,800/mm^3 with 69% neutrophils, 2% basophils, 27% lymphocytes and 2% monocytes. Her blood sugar was 85, BUN 92. Serum sodium was 130, chlorides 95, potassium 6.3 and CO2 combining power 17 mEq/1.

A chest x-ray showed cardiac enlargement, bilateral pleural effusion and congestion of the pulmonary vasculature. An EKG showed a sinus tachycardia.

The patient was digitalized and treated with ion exchange resins but had a progressive rise in her BUN to 288. She developed a pericardial friction rub, became increasingly lethargic and died on 5/7/65.

Clinical Discussion

Dr. W. Taliaferro Thompson: We are concerned today with a 51 year old Negro female who was hospitalized with nonspecific symptoms of fatiguability, weakness, early satiety, weight loss and dizziness. She had had back pain and, for several days before admission, intractable vomiting and tarry stools. An enlarged heart, an enlarged liver, modest edema, anemia, slight leukocytosis, and proteinuria were noted. We must attempt to explain the discrepancy between the BUN of 57 and the creatinine of 10. We can say that she was vomiting, she wasn't eating, that she had lost much weight, and that, therefore, the amount of nitrogen presented for clearance was reduced. We might also postulate that she had liver dysfunction and for this reason that ammonia was not being metabolized to urea and, therefore, there was less urea present for filtration. We do see very low urea nitrogen in patients with liver disease, but on the other hand, we also see patients with an elevated BUN and liver failure.

Her CO2 combining power was down. I assume that this was due to impaired glomerular filtration and excretion of hydrogen ion, and represented a modest metabolic

acidosis. She had a number of studies including a biopsy that resulted in a lot of bleeding but no positive information, and x-rays of various kinds. After treatment and some subsidence of symptoms, she was discharged only to return with severe pulmonary congestion, cardiac disease, and her thoracic aorta and the sulci are clear at this time. We have primarily cardiomegaly with some arteriosclerotic changes of the aorta. On the films of 4/7/65 (fig. 2) we see blunting of the sulci by fluid, particularly posteriorly. The heart size has remained essentially the same and the more



FIGURE 1. The film taken 3/22/65 shows an enlarged heart. The sulci (arrow) are clear.



FIGURE 2: The sulci have been blunted by fluid (arrow) in the x-ray study of 4/7/65.

rapidly progressing renal failure. At this time we will look at the x-rays.

Dr. M. Pinson Neal: On her 3/22/65 examination (fig. 1) the heart is enlarged with some left ventricular preponderance. There is a little tortuosity and elongation of central pulmonary vasculature shows no gross alteration. In the abdominal film taken 20 minutes after injection of the contrast material, one can see an abnormally small amount of dye in the collecting systems. The kidneys are poorly defined but they are

a little larger than they should be, both measuring 14 cm. Studies of the bones showed a minor degree of demineralization and degenerative changes consistent with her age. Dr. Alton Sharpe will comment on the liver isotope scan.

Dr. Alton R. Sharpe, Jr.: The scan of the liver (fig. 3) shows that organ is enlarged in both the right and left lobes, and has an



FIGURE 3: The scan of the radioactivity from the liver was done after injection of a radioisotope of gold which is concentrated in the Kupffer or reticuloendothelial cells. The liver is over-sized and the irregular areas suggested poorly functioning areas or areas replaced by foreign tissue.

abnormal configuration. There are also areas which show less radioactive uptake than others.

Dr. Thompson: Would you suggest that this was a diffuse infiltrative process such as nonspecific fibrosis, nodular growth of some foreign tissue, or sick cells which are not able to pick up the dye? Was this an isotope of gold picked up by Kupffer cells or rose bengal which is taken up by the hepatic cells?

Dr. Sharpe: This was done with radioactive gold. Since there is involvement of the entire liver and enlargement of the right and left lobes, we would surmise that there was involvement of the entire reticuloendothelial system that is more severe in some places than in others.

Dr. Thompson: I am confident that this patient had nephrosis, a clinical entity characterized by increased permeability of the glomerular membranes, manifested by extreme proteinuria, varying degrees of hypoalbuminuria, hyperlipemia and edema. Let me emphasize, however, that this has a number of causes, and there are no etiologic implications in this term.

Literally dozens of causative agents or factors have been noted including post streptococcal states, metabolic diseases, circulatory diseases, heavy metal poisoning, diseases of hypersensitivity, infections and heredito-familial causes. The nephrotic syndrome may be found in any age group but, in general, acute glomerulonephritis is seen predominantly in persons under 45 years of age; chronic proliferative and membranous glomerulonephritis occur in all age groups; systemic lupus erythematosus is largely found in young women; diabetic glomerulosclerosis and multiple myeloma involve the middle and older age groups.

In any CPC "collagen diseases" must be mentioned. She was old for lupus and had no leukopenia or evidence of abnormal proteins, such as a false positive serology. She had a low gamma globulin instead of an elevated one; she did not have joint pains, serous membrane involvement or positive LE preparations. She did not have a clinical picture that would fit periarteritis or dermatomyositis.

There is no reason to suspect heavy metals as a cause of her renal disease. There was no evidence of diabetes. A miscellany of other conditions that she did not have that could be associated with the nephrotic syndrome but we will consider only three.

The three diseases which she very well could have had are glomerulonephritis, myeloma and amyloid. In favor of this being a nephrotic phase of glomerulonephritis is that this is statistically the most frequent cause of uremia with a nephrotic syndrome. Seventy-one of 183 patients reviewed by

Schreiner[1] with nephrotic syndrome had some form of proliferative glomerulonephritis. The largest number fell into the acute, chronic or subacute glomerulonephritis category. Our patient had hypertension which is consistent with the primary diagnosis of nephrotic stage of glomerulonephritis. She had a low cholesterol which is seen often in patients with nausea and vomiting, particularly when the BUN rises. The anemia is quite severe for this diagnosis, although she did have blood loss. With glomerulonephritis there should be no liver involvement, there should be no central nervous system involvement (except in the more elevated levels of uremia), and, while heart failure can be part of the nephrotic phase, I do not believe that this is so in this patient. I am going to assume that nephrotic stage of glomerulonephritis doesn't fit this pattern as well as it should and go on to myeloma.

Myeloma characteristically presents with nonspecific symptomatology, often very severe anemia, and bone pain. Anemia she had, but pain was not a dramatic feature of her illness. We are told simply that she had it. Futhermore, there was no mention that it became worse. The bone x-rays were negative for myeloma. Marked osteoporosis is seen in about 20% of the patients with myeloma without the more typical "punched-out" lesions. We are told that the findings in bone marrow examination were compatible with multiple myeloma, i.e., many plasma cells were seen. Myeloma is a neoplastic proliferation of plasma cells which behave as a clone. The plasmacytes produce a protein which is homogenous and which appears as a single spike on serum electrophoresis. We do not have this. If this protein is small, it can spill into the urine and may not show in the serum. In this patient, however, urine electrophoresis showed no abnormal spike, nor were there Bence-Jones proteins. The heat characteristics of Bence-Jones proteins may be obscured if there are large amounts of other proteins present, but even so, on an electrophoretic pattern, this dominant single spike should appear. As amyloid develops in the course of myeloma, hyperglobulinemia frequently disappears. However, nearly all the patients with amyloidosis complicating myeloma have Bence-Jones proteins in the urine. If the absence of a hyperglobulinemia pattern is to be explained by a developing amyloidosis then, if myeloma is present, Bence-Jones proteins should be demonstrable in the urine.

Primary amyloidosis is not a common disease, but neither is it rare. The cause of amyloid is not known, but there are a number of postulations: first, that it represents an antigen-antibody reaction in which there is tissue damage and deposition of amyloid —an auto-immune disease. Second, that it is a degenerative disease in which pathological ground substance is formed. On support of this view is the fact that older people do show an increased incidence of amyloid. Third, it is a familial disease genetically determined; and fourth, it is related to neoplasia of the reticuloendothelial system. A number of investigators feel that it is present in an occult or burned-out myeloma with the abnormal proteins deposited in the cells rather than in the blood stream. Clinically, primary amyloidosis presents with weakness, fatiguability, anorexia, and weight loss. A number of systems are involved. The heart is involved in 90% of patients pathologically, symtomatically in some 50%. The degree of anemia varies greatly. About 10% of these patients have G.I. bleeding with tarry stools and this is consistent with the anemia in our case. The central nervous system is usually spared, the peripheral nervous system is not. Let me note that blood vessels in the neck may be involved and postulate that basilar artery involvement caused her central nervous system seizures. It is also possible that the seizures were related to abnormal cardiac rhythm with impaired cerebral blood flow.

Hepatomegaly is present in 45% of cases but abnormal hepatic chemistries are found in only 10%. This woman had virtually

normal laboratory findings and yet the liver was enlarged. The bone marrow frequently contains increased numbers of plasma cells, compatible with myeloma. The patient's tongue was not involved. We all think about macroglossia and have the patient stick out the tongue, but this occurs in only about 20% at a clinically detectable level. The cholesterol is elevated in relatively few cases. Bence-Jones proteins are not present. The absence of amyloid in the rectal biopsy doesn't bother me because frequently blind biopsy of clinically normal tissue is not rewarding. The bleeding manifestation is quite compatible with amyloid.

Let me close by quoting the following from Schreiner's section of Strauss and Welt's book: "It is clear that the nephrotic syndrome may develop in a variety of clinical settings. It is particularly hazardous in adult patients to presume that all cases of this syndrome are due to membranous glomerulonephritis per se. In our opinion, the most significant advance in understanding the natural history of the nephrotic syndrome and in permitting correlation of structure and function has been the widespread application of percutaneous renal biopsy. We have done more than 800 percutaneous renal biopsies and identification of the etiology in patients with the nephrotic syndrome has been the strongest indication for the clinical use of the test to me."

If the biopsy of the kidney had been done in this case and the report put in the protocol, it might have resolved all the difficulties and the diagnosis might have been obvious, but not necessarily so. Five of 100 biopsies obtained by Schreiner were sent to a variety of experts and aroused extreme disagreement regarding whether the diagnosis was amyloidosis or glomerulonephritis. Furthermore, DeWardener[2] in his book THE KIDNEY states that "without the use of special stains it is easy to confuse renal amyloidosis, diabetic glomerulosclerosis, and chronic glomerulonephritis." If Dr. Lurie doesn't show us amyloid, I will have to ask him to do some "special stains".

Dr. John H. Moon: I saw the lady and thought she had myeloma with the subsequent development of amyloidosis.

Mr. Arnold Effron: The diagnoses of the senior class were widely varied and included: subacute glomerulonephritis, chronic glomerulonephritis with superimposed pyelonephritis; thrombotic thrombocytopenia, amyloidosis, multiple myeloma and multiple myeloma with amyloidosis among others.

WARD DIAGNOSIS:

Multiple myeloma
Uremia
Cirrhosis
? Chronic glomerulonephritis

DR. W. T. THOMPSON'S DIAGNOSIS:

Amyloidosis, causing nephrotic syndrome

Pathological Discussion

Dr. Harry I. Lurie: As we did not get permission to examine the head in this case we don't have the explanation of her seizures. The pericardial cavity contained only 20 cc. of clear fluid and there was no pericarditis. I cannot explain her friction rub. In the abdominal cavity there were numerous adhesions, and she had a well marked chronic perisplenitis, indicative of an old peritonitis, the cause of which was not obvious. The prosector, Dr. C. W. Moncure, did find an old thrombosed ovarian vein and we can only assume that she had a pelvic infection which resulted in a peritonitis.

The heart was enlarged (425 gm.) with left ventricular hypertrophy. The liver was large, weighed 1775 gm. and was very firm in consistency. Cut sections gave no gross evidence for the pattern of the liver scan. The pancreas microscopically showed the features of uremia and subacute pancreatitis. The G.I. tract was essentially normal.

The lungs were extensively involved with a bronchopneumonia, especially on the right. That was the immediate cause of death.

The main lesions were in the kidneys. These were both enlarged, the right weighing 210 gm., the left 220 gm. Their surfaces were finely granular with a few deep pits and a few small scars. Microscopic examination showed that the main lesion was in the glomeruli, practically all of which were involved. In addition, there were foci or chronic pyelonephritis. In the glomeruli (fig. 4) there were multiple nodular lesions which on first impression suggested the Kimmersteil-Wilson lesion. The absence of diabetes and the glomerular structure with various staining techniques ruled this out. Using the periodic acid Schiff procedure (PAS stain), the glomeruli stained very strongly positive the basement membranes of the very atrophied convoluted tubules and the wall of the arterioles. This tells us only that there is probably some mucopolysaccharide, so the next thing was to look for amyloid. We found very faint positive staining with Congo red. This was stronger in the basement membrane of the tubules and in the walls of the arterioles, but was not definitely positive. With the metachromatic stains, crystal violet and gentian violet we found very slight metachromasia. There was a deposit of very eosinophilic material in the connective tissue of the medulla obviously proteinaceous material. It stains strongly with PAS and weakly with Congo red and was very faintly metachromatic with the crystal violet and gentian violet stains. Some of the collecting tubules had disintegrated, and although the proteinaceous material seemed to be leaking through into the connective tissue, there was no inflammatory reaction of the type seen in multiple myeloma. There were also foci of chronic pyelonephritis. The stains for amyloid were applied to many other tissues and we found similar reactions in the walls of the blood vessels. In some of the sections of the G. I. tract we found similar staining reactions in the muscular coat. Areas in the myocardium were strongly suggestive of amyloid and stained strongly positive with PAs but were completely negative with the Congo red and metachromatic stains.

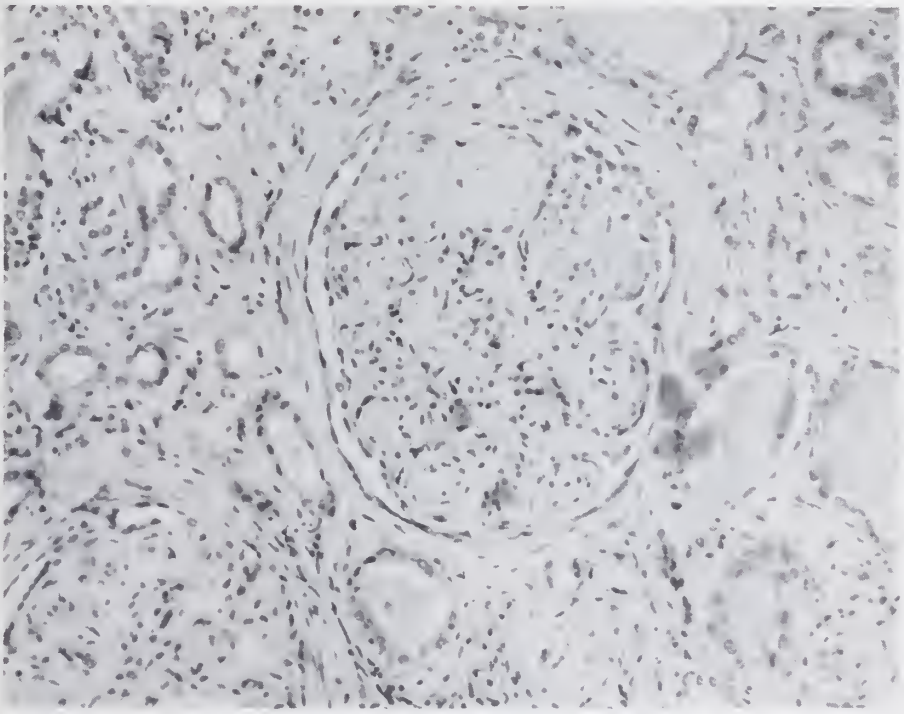


FIGURE 4: All glomeruli were altered, many with nodular lesions similar to the Kimmerlsteil-Wilson diabetic lesion. (H & E, magnification 100 X)

In the liver we found the same amor-

phous eosinophylic material between the sinusoid lining and the liver cell trabeculae, producing a distinct narrowing of the sinusoids. Morphologically this is the characteristic distribution of amyloid. However, all stains were negative.

There were no gross lesions in the bones but in the marrow there were many plasma cells (fig. 5): occasional atypical ones and occasional multinucleated ones.

PAS. Many studies have shown that the distribution of amyloid in multiple myeloma may be either that of primary amyloidosis or that of secondary, most being distributed like the primary type.

The serum protein electrophoretic pattern on this patient showed no typical myeloma peak; there was an increase in the alpha and beta areas, but a slight diminution in the gamma. But the protein pattern

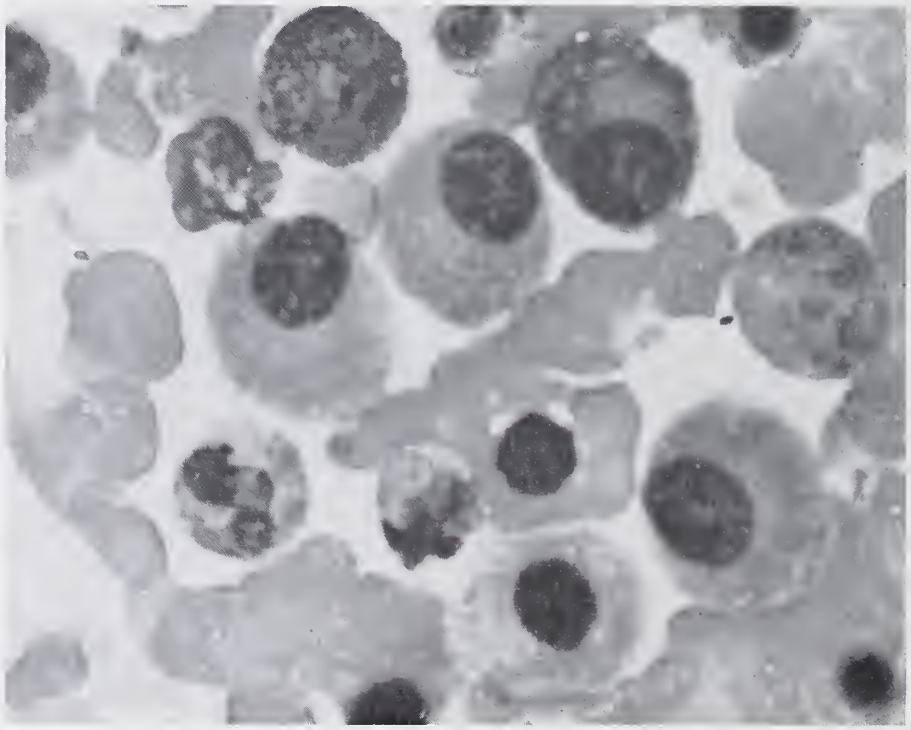


FIGURE 5: The bone marrow contained a large proportion of plasma cells, many of which were of atypical appearance (Wright's stain, magnification 1000 X)

Now, how do we interpret these findings? The microscopic appearance of the tissues in the H & E sections are strongly suggestive of amyloidosis but the staining reactions are equivocal. Therefore, we call this material paramyloid. The distribution of this paramyloid in our particular case is that of a combination of primary and secondary amyloidosis.

Let us consider the pathogenesis of the deposition of this amyloid-like material. Braunstein and Buerger[3] showed that the amyloid in multiple myeloma was usually orthochromatic (not metachromatic) with crystal violet, but strongly positive with

of myeloma is variable and there may be no abnormality. Consequently we cannot exclude it purely on the basis of this electrophoretic curve. However, there were no bone lesions present.

Several investigators[4,5] have reported that amyloidosis may precede bone lesions of myeloma by several years and, in fact, the patient may die from amyloidosis before bone lesions even appear. Apitz[4] has suggested the name of pre-myeloma for this condition. The reports of Kyle and Bayrd[6] and Osserman[7] indicate that in so-called primary amyloidosis there is an increase in plasma cells in the bone marrow.

Apitz found abnormal plasma cells in bone marrows in all his cases. He concluded that primary amyloidosis was a plasma cell disease in which abnormal proteins were produced and the tissue infiltrate represents localized deposits of these abnormal proteins.

What about the stimulus responsible for the plasma cell proliferation and abnormal proteins? We have evidence to suggest that our case had a chronic inflammation in the peritoneal cavity. One of Osserman's[5] cases of amyloidosis was caused by a low grade peritoneal inflammation with adhesions, and recently there have been several reports of amyloidosis in "periodic peritonitis". Amyloidosis has been produced experimentally by injecting mineral oil and by implanting plastics into the peritoneal cavity. What the peritoneal cavity has to do with it, I do not know.

Now let us summarize the relationship of inflammation, plasma cells, abnormal plasma proteins and amyloidosis. When an antigen such as streptococci is introduced into the body there is a very slight increase in plasma cells and gamma globulin antibodies are produced. When there is an unusual antibody such as a longstanding chronic infection, there is an increase in plasma cells, some of which appear atypical. There may be an abnormal protein pattern in the blood. In addition, certain lymphomas and lymphadenopathies such as Franklin's disease and macroglobulinemia also produce an increase in the number of plasma cells and an abnormal protein pattern.[7] These proliferating plasma cells, some of which are abnormal, produce the abnormal globulins which are deposited on the mucopolysaccharides in the tissues to produce amyloid. Occasionally there is a neoplasia of plasma cells, which is manifested as multiple myelomatosis. In experimental animals a virus has been identified which can cause neoplasia of plasma cells but so far a virus has not been found in human cases. We know that myeloma can result from hyperimmunization. We also have evidence that occasionally this disease complex starts as a proliferation of plasma cells and goes on to a neoplasia; this is what Apitz has called "pre-myeloma". These myeloma plasma cells may be nonfunctional, producing no abnormal proteins and no amyloidosis. On the other hand, some of these neoplastic plasma cells may be functional, producing abnormal globulin and amyloidosis.

Our case has amyloidosis, an increase in plasma cells, an abnormal protein pattern, but no bone lesions. Amyloidosis without bone lesions can be divided into those cases with an obvious etiology and those with no obvious etiology. In chronic infection such as tuberculosis and osteomyelitis, one finds a slight increase in plasma cells, abnormal globulins, amyloidosis in the liver, spleen and kidney (the distribution of secondary amyloidosis) and the characteristic staining of amyloid. Those cases with no obvious etiology can be divided into two major groups. The first has no increase in plasma cells, globulins are apparently normal and there is amyloid in the heart, tongue and G.I. tract. This is the distribution of primary amyloidosis ("cardiac amyloidosis," "senile amyloidosis"). The deposit does not give the characteristic staining reaction of amyloid and is therefore called paramyloid. In the second group there is an increase in plasma cells, abnormal globulins, amyloid in the distribution of either the primary or secondary type, or a combination of both. This group of cases Apitz has called "pre-myeloma". Our case then, falls into this category of the increased plasma cells, abnormal globulins, and paramyloid in the distribution of both the primary and secondary types.

Pathological Diagnosis:

Amyloidosis (paramyloid) secondary to chronic peritonitis and chronic pyelonephritis
Uremia
Bronchopneumonia
Hypertensive cardiomegaly

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Change the Climate

British Health Minister Kenneth Robinson still needs to learn that the 190-year-old principles of economist Adam Smith have not been dispatched irretrievably by the more recent doctrines of economist John Keynes. The other day Mr. Robinson spluttered and fumed at 600 young British doctors who sat through a day of testing to qualify for practice in the United States.

"Britain simply cannot afford to train doctors for the purpose of swelling the membership of the American Medical Association," Mr. Robinson harumphed.

He is right, of course: Britain cannot afford it. The problem lies not with the doctors, however, but with Britain's National Health Service. If British doctors are emigrating, there must be a reason for it, and the reason is that incentive to practice in England is low.

Young English doctors complain that they work as if they were fully trained, but are paid as if they were orderlies. Some of them work 110 hours a week, but draw only $2,000 a year. That is so low it prompted one doctor recently to moonlight as a butcher to make financial ends meet. Pay problems worsened still more this summer when Harold Wilson's wage freeze knocked out promised improvements in pay schedule. The situation is so bad that now over 40 per cent of the lower staff positions in government-run hospitals are filled by Indians, Pakistanis, and interns from former African colonies. Many young English doctors, feeling their fund of good will is overdrawn, are choosing to go where their services will be more appreciated.

"To accept a fine medical education in Britain with the deliberate intention of selling it elsewhere is a cynical and selfish act," Mr. Robinson said. But he has missed the point again. He does not understand that doctors possess a commodity they will sell to the highest bidder, just as farmers sell their eggs.

Mr. Robinson and his colleagues in the British government ought to do their homework. Britain went a long way on Adam Smith's principle that if left alone, the economy would take care of itself. But Keynes came along and said that the more the economy gets manipulated, the better off everybody is. Incentive, however, which lies at the heart of human endeavor, will not tolerate much tinkering. The human machine may continue to execute its tasks, but the spirit will wither. The young British doctors know that the best medicine for their sickly incentive is a drastic change of financial climate.

—Reprinted from the Richmond News Leader, October 5, 1966.

Correspondence . . . .

Resolution.

To the Editor:

I want to express my indignation about the "Resolution on the Death . . . ." in the July issue of the Virginia Medical Monthly.

The Journal has descended to a very low level—indeed—by comparing the introduction of Medicare, no matter how much liked or disliked by physicians of this country, nevertheless the law of the land now, by comparing this event with a death-resolution, usually reserved for the death of a member of our profession.

I deeply resent this tasteless editorial and want you to know there are many more colleagues who do so. You cannot be proud of this journalistic bad taste.

If the Roanoke Academy feels this way, let it be buried in their minutes, but the Virginia Medical Monthly is not the place to spread this before the public.

Sincerely yours,

Conrad L. Gossels, M.D.

Arlington, Virginia
July 29, 1966.

Milk Intolerance Among Negroes

Many more Negroes than whites apparently suffer ill effects from drinking milk. In some adults—about 70 per cent of whom are Negro—milk causes abdominal bloating, cramps, and diarrhea, says a report in the September 19th Journal of the American Medical Association.

The victims often have a deficiency of intestinal lactase activity, and therefore are unable to digest the milk sugar, lactose, said the report by two physicians at the Johns Hopkins University School of Medicine, Baltimore.

When the physicians tested 20 white and 20 Negro men volunteers at the Maryland House of Correction, they found 21 who could not tolerate milk. Nineteen of these were Negro.

Earlier studies agree with these findings, and a new report the authors received from Uganda indicates 72 per cent of Negroes there have a lactase deficiency. "The similarity to the 70 per cent incidence in Baltimore is striking."

The cause of this deficiency and its incidence aren't known. It may be hereditary, the result of intestinal injury, or an adaptation to decreased milk-drinking in adulthood.

Assuming for the moment that the deficiency is hereditary, the authors make an interesting observation: milk-drinking after weaning is rare in west-central Africa, the ancestral home of many American Negroes.

Diseases carried by the Tsetse fly make dairy-cattle raising virtually impossible in this section of Africa.

"It is therefore probable that the ancestors of the Negro drank very little milk and thus had less need for intestinal lactase after infancy. Over many generations, this diminished need might have produced the genetic adjustments which result in the milk intolerance of many Negroes today."

Early recognition of milk intolerance is important, the report noted, particularly in pregnant mothers and peptic ulcer patients —persons who would normally consume large amounts of milk.

Milk intolerance may also have "sociologic significance," since some welfare programs provide powdered milk to recipients, "many of whom are Negro and who might be expected to have lactase deficiency." Buttermilk and yogurt would be better for these persons. These soft-curd forms of milk contain very little lactose.

Authors of the report are Theodore M. Bayless, M.D., and Norton S. Rosenweig, M.D.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Requirements of the New PKU Law

Phenylketonuria is an error in the ability of the body of some individuals to properly metabolize phenylalanine for growth and development. If this error is not discovered and treated early in life, the individual will almost always have very poor and slow physical development and will be severely mentally retarded. Fortunately, the condition is relatively rare, but until a test is performed, there is no way of being sure whether the infant does or does not have phenylketonuria (PKU). Therefore, it is essential that every newborn be blood-tested to determine presence or absence of PKU as soon as such testing can be performed.

Recognizing the importance of this affliction, the 1966 Virginia General Assembly enacted legislation requiring all newborn infants to be tested for phenylketonuria. The attending physician, hospital, and public health facility are specifically mentioned in the law as a source through which the testing shall be performed.

Under the Law (Code of Virginia, Title 32, Chapter 5.1), the State Board of Health is authorized to adopt regulations and procedures to establish, maintain, and carry out intensive programs both of public education about and detection of phenylketonuria. These regulations and procedures became effective October 1, 1966, and are of interest to all physicians in the State.

A copy of the program to be carried out under the rules and regulations adopted by the State Board of Health has been distributed to all physicians and hospitals in the State.

If the baby is in the hospital at the end of the required time, the specimen should be secured and sent for examination. If the newborn is discharged before testing, a "parent phenylketonuria packet" is given by the hospital to the parent or guardian with instructions to have the infant blood-tested as soon as possible, preferably before two weeks of age.

The following is a joint statement of the Committee on Maternal and Child Care, American Medical Association, and the Committee on Fetus and Newborn, American Academy of Pediatrics:

"Because of the difficulty of interpreting blood tests and the hazard of unwarranted dietary restrictions, it is recommended that the screening tests be performed in a large central facility, such as a state health department laboratory, or a regional laboratory. Since the disorder is rare, only a very large facility will process a sufficiently large number of positive tests to acquire skill in diagnosis."

The State Health Department laboratory facilities are utilized in this program under the new law.

In Virginia, during the fiscal year 1965 blood tests for PKU were submitted on 35,211 children. Two of the positive tests resulted in final diagnosis of PKU; one in an infant and one in an older child. Since October 1962, when the PKU program was started in the State, 316 positive tests have been made and nine PKU cases have been diagnosed in newborns. The Department files show there are a total of 34 cases of known PKU in the state. Twenty-five of these cases were first diagnosed in children beyond the period of infancy. Five families in Virginia have more than one case of PKU. A roster which includes pertinent information relative to all known phenylketonuria cases is kept by the Bureau of Maternal and Child Health.

This is essentially the same program that has been in operation on a voluntary and cooperative basis for the past two years. Now this precautionary and corrective program is mandatory and the continued excellent cooperation of physicians and hospitals will accomplish its objective of preventing mental retardation due to phenylketonuria.

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Monthly Report of Bureau of Communicable Disease Control

	Sept. 1966	Sept. 1965	Jan.-Sept. 1966	Jan.-Sept. 1965
Brucellosis	2	2	15	16
Diphtheria	0	0	0	0
Hepatitis	42	41	435	431
Measles	73	33	3065	4271
Meningococcal Infections	2	3	59	52
Meningitis (Aseptic)	13	2	25	10
Poliomyelitis	0	0	0	0
Rabies (in animals)	12	9	214	284
Rocky Mt. Spotted Fever	4	5	30	39
Streptococcal Infections	490	417	9594	8639
Tularemia	0	2	2	8
Typhoid Fever	3	4	10	8

Mental Health . . . .

ARTHUR CENTOR, Ph.D.

Licensing of Psychologists in Virginia

Licensing of psychologists and clinical psychologists became law in Virginia July 1, 1966. For twenty years, there had been certification of clinical psychologists, but not licensure.

The difference between certification and licensing is that certification restricts only the use of the title whereas licensing restricts the use of the title *and* the practice of the profession. Under the old law, an individual who was not duly certified by the Department of Mental Hygiene and Hospitals upon recommendation of the Virginia Examining Board for Clinical Psychologists could not legally represent himself as being "a certified clinical psychologist". Such an individual could represent himself as being a clinical psychologist (without the word certified) or psychologist, if he so chose, without being examined. He could perform any psychological service that he saw himself qualified for. Under the old law, there was no regulation of psychological services and the public was not protected. The only benefit, besides being allowed to call himself one, that the certified clinical psychologist enjoyed was that he could, together with a physician, sign commitment papers for the mentally deficient. Apparently this option was rarely used by the courts.

Nineteen states have laws for the "certification" of psychologists (California, Colorado, Connecticut, Delaware, Florida, Illinois, Louisiana, Maine, Maryland, Michigan, Minnesota, Nevada, New Hampshire, New Mexico, New York, Oregon, Utah, Washington, Wyoming). In these states, with minor variations, the law restricts the use of the words: psychological, psychologist or psychology in the title or description of services. In these states, there is no restriction on the performance of psychological services just as long as the word psychology or its variations do not appear in the individual's title or in his description of his services. A person who is not certified could not, in these states, be prevented from administering, scoring and interpreting intelligence tests, the Rorschach or any personality test. Such an individual could, as part of his title, describe himself as being an intelligence and personality examiner avoiding mention of psychology. In these states, it would not be illegal for any individual to offer his services for family therapy, sociotherapy, group therapy or even psychotherapy. For the past twenty years, this was the situation in Virginia under the certification law but at least in the other states, the title "psychologist" was prohibited whereas in Virginia, only the title "certified clinical psychologist" was prohibited.

The General Assembly of 1964 directed the Virginia Advisory Legislative Council "to make a study and report upon matters relating to the certification of psychologists". The Council selected a Committee to conduct hearings of interested persons and considered the legislation and experience of those American states and Canadian provinces which have provided regulation of psychologists. On the basis of the findings of the Committee, the Council issued its report to the Governor and the General Assembly calling for the licensing of psychologists and the licensing of clinical psychologists. The report of the Council was introduced as House Bill No. 55 during the

CENTOR, ARTHUR, PH.D., *Director of Psychological Services, Department of Mental Hygiene and Hospitals, Richmond.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

1966 General Assembly and with some changes became law.

It should be noted that up until this date, there were only seven other states with "licensing" laws (Alabama, Arkansas, Georgia, Idaho, Kentucky, Tennessee, Oklahoma).

The Virginia law creates two classes of psychologists.

A "licensed psychologist" is to be examined by *and* the license issued by the Virginia Board of Psychologists Examiners. This board is made up entirely of psychologists. The "licensed psychologist" may engage in the practice of psychology which was defined as including: 1. measuring and testing. 2. counseling and psychotherapy. 3. psychological consulting.

The "licensed clinical psychologist" is to be examined also by the Virginia Board of Psychologists Examiners but the license is to be issued by the Board of Medical Examiners. The law provides that a licensed clinical psychologist would become a member of the Board of Medical Examiners. A "licensed clinical psychologist" means "a psychologist who is competent to apply the principles and techniques of psychological evaluation and psychotherapy to individual clients for the purpose of ameliorating or attenuating problems of behavorial and/or emotional maladjustment".

As can be seen, there does not seem to be any essential difference between the practice of "psychology" and the practice of "clinical psychology". A psychologist with either license may engage in "psychotherapy".

One should not be left with the impression that there has been no advance in terms of protection of the public which was the primary concern of the Assembly. A license is required of anyone offering to the public for a fee his services which are of a psychological nature. The public is, therefore, protected in that an individual with only a smattering of psychology courses and some experience may not hold himself out to be a psychologist. Residents of Virginia may now be reasonably secure when they obtain the services of an individual who is "a licensed psychologist" or "a licensed clinical psychologist" that his education and experience meet at least minimum requirements which (except for some who are to be licensed under a Grandfather clause) will be a Ph.D. in psychology plus two years of appropriate post-doctoral experience, and for the "licensed clinical psychologist" including a year of internship. The law exempts from any licensing requirements those employed as psychologists by local, state, or federal agencies or by approved educational institutions.

Of the eight states with licensing laws, only Virginia licenses two distinct categories. Whatever the rationale for this may have been, it is certain to lead to confusion and misunderstanding not only for the layman but also for professional agencies and physicians who desire to refer their patients for psychological services. Should the referral be made to a "licensed psychologist" or to a "licensed clinical psychologist"?

The answer to this is that there are no simple guidelines. Qualification requirements for the two licenses vary only in that the "licensed clinical psychologist" must have completed a one year of internship or practicum in an acceptable mental health facility. In a practical sense, however, this may not be the only difference. To obtain a Ph.D. degree in psychology, one need not pursue a curriculum containing coursework in tests and measurements, diagnosis and evaluation and psychotherapy. The coursework could be in general psychology, experimental psychology, or counseling and guidance. Therefore, a doctorate in psychology without a clinical background but with two years of experience, one of which could be teaching in a university, would make the individual qualified to be "a licensed psychologist".

This does not mean, however, that all "licensed psychologists" do not have the academic background for performance of clinical psychological services. But since

the bearer of a license may offer his services to the public for a fee, how is the public to be protected from the "licensed psychologist" who does not have the training and background to perform such services?

The answer to this is rather simple. The "licensed psychologist" is bound by the ethics of his profession not to perform services beyond the area of his competence. Revocation of the license is the penalty for violation of the Ethical Code. The "licensed psychologist" may not accept as a referral for psychological services any case that requires techniques beyond his level of competence.

The "licensed clinical psychologist" is examined by the Virginia Board of Psychologists Examiners but his license is issued by the Board of Medical Examiners. The academic training of the clinical psychologist would be expected to include specialization in the field of psychological services for the purpose of psychological evaluation and psychotherapy with patients with behavioral and/or emotional maladjustment. The "licensed clinical psychologist" is also required, of course, to practice within the area of his competence. Any unethical practices may lead to a hearing by the Board of Medical Examiners and the license may be revoked by the Board.

Since both the "licensed psychologist" and "licensed clinical psychologist" are both well trained in psychology, only the type of psychological service required should be the determining factor in the choice, as to which psychologist to refer the patient.

As with every new licensing law, there is expected to be some need for clarification and amplification of what service may legally be practiced without a license and which may not be. It is not clear at present whether the licensing law will be effective in curbing the performance of psychotherapy in private practice by those who are not qualified psychologists or psychiatrists.

Protection of the public is the sole aim of the licensing law and only time can tell whether this law is fulfilling this purpose adequately or whether changes need to be made to make it less or more restrictive.

Study of Diseases of Calcium Metabolism

The cooperation of physicians is requested in a continuing clinical study of calcium metabolism and calcium kinetics being conducted by the Metabolism Branch, National Cancer Institute at the Clinical Center, National Institutes of Health, Maryland.

Of interest for this study are patients with calcinosis universalis, hypoparathyroidism, hyperparathyroidism, pseudohypoparathyroidism, and hypercalcemia of malignancy without bony metastases. Patients with roentgenologic evidence of bone disease as well as documented serum calcium abnormalities would be of special interest.

Patients for this study should be clinically stable, ambulatory, continent of urine and feces, and be willing to participate in metabolic balance studies, including administration of Ca^{47}, during a 30-day admission to the Clinical Center.

Physicians interested in having their patients considered for this study may write or telephone: James M. Phang, M.D., Clinical Center, Room 3B-40, National Institutes of Health, Bethesda, Maryland 20014. Telephone: 656-4000, Ext. 63097 (Area Code 301).

Antifibrinolytic Agents

In recent years the use of antifibrinolytic agents in the treatment of hemorrhage associated with fibrinolytic activity has become increasingly popular. Two types of fibrinolytic inhibitors have been found of value for this purpose, namely: those acting on activators of plasminogen and those acting on formed plasmin (antiplasmin).

Inhibitors of plasminogen activation fall into three categories:

a) Natural occurring inhibitors in the plasma. The existence of such agents is certain but their mechanism of action is in doubt.

b) Amino-acid inhibitors such as lysine, ornithine, arginine or lysine esters act in a competitive manner due to their structural similarity to activator. The effect of these substances, however, is too weak to be of therapeutic use. Only ϵ-aminocaproic acid (EACA) is a potent inhibitor of plasminogen. 1-(aminomethyl) cyclohexane-γ-carboxylic acid (AMCHA) and P-aminomethyl benzoic acid (PAMBA) as inhibitors of plasminogen activation have not been adequately evaluated, but they may come in time to replace EACA.

c) Pancreatic and parotid trypsin inhibtors. Polypeptides have been extracted from bovine pancreas and parotid glands which inhibit trysin, pepsin, and other proteolytic enzymes and also inhibit plasminogen activation.

Plasmin inhibitors are classified in a manner similar to the plasminogen inhibitors in three ways depending upon their mechanism of action.

a) Natural occurring plasma antiplasmin—There are at least two antiplasmins in serum. One in the α_2 globulin fraction reacts quickly with plasmin while the other, in the α_1, fraction reacts more slowly.

b) Natural occurring platelet antiplasmin—Platelets possess significant antiplasmin activity, and platelets and plasma antiplasmins play a key role *in vivo* in the physiological regulation of fibrinolytic activity.

c) Plasmin inhibitors—Trasylol[R] a polypeptide with an estimated molecular weight of 12,000 is an extract of animal apocrine glands that inhibits plasmin directly and promptly.

The clinically used antifibrinolytic agents are EACA and Trasylol. ϵ-amino-caproic acid is the first potent fibrinolytic inhibitor to have become available largely as a result of Japanese investigation in the 1950's. It is a white crystalline substance freely soluble in water, is a deamined relative to lysine that is totally absorbed from the intestinal tract and is rapidly excreted in the urine. A more detailed discussion of their mechanism of action is in order. The main action of EACA is as a competitive inhibitor of plasminogen activation. EACA at a concentration of 10^{-4}M and higher inhibits activation of plasminogen by streptokinase and urokinase, and tissue activator. At concentrations above 5×10^{-2}M, EACA is an inhibitor of plasmin and tryspin. At lower concentrations, it enhances the proteolytic activity of plasmin.

EACA inhibits the tuberculin reaction in man. In animals it produces hyperthermia, bradycardia, and increases the systolic blood pressure. Following large doses in animals (over 0.3 gm./kg) subendocardial hemorrhages in dogs and monkeys have been produced, and there are reports of it being teratogenic in animals. The usual dose in

man is from 2 to 6 grams daily, given either orally or intravenously.

Toxicity and side-effects of EACA in man are due to inhibition of plasminogen activation or to less specific effects perhaps as a result of the substitution of EACA, an unnatural amino-acid, for lysine in amino-acid metabolism.

Since the plasminogen-plasmin system plays a physiological role in maintaining the patency of the vascular tree, the possibility must be accepted that EACA may cause vascular occlusion by inhibiting the lysis of intravascular deposits. Patients with pre-existing vascular disease present a higher risk as to this hazard.

Other side-effects that have been reported are hypotension, dizziness, diarrhea, abdominal discomfort, conjunctival suffusion, and nasal stuffiness. A single report of an autopsy finding of scattered areas of hepatic and cardiac necrosis has appeared. The patient had carcinoma of the prostate. Post-operative hemorrhage occurred and EACA was given.

A concentration of above 10^{-1}M, EACA, *in vitro* impairs thromboplastin generation and slightly prolongs the thrombin clotting time. Such an effect is non-specific and probably reflects the increase in ionic strength.

In some clinical states (obstetric accidents, severe surgical trauma, etc.) there is intravascular fibrin formation due to release of thromboplastic substances, and as a result clot formation occurs. Occasionally these patients have superimposed hyperplasminemia. This combination of defects leads to hemostatic failure. It is obvious that it would be deleterious to give EACA to such patients since the plasminogen level is the only feature which would serve to exclude intravascular clotting as the cause of the coagulation defect. Consequently, the use of mild heparinization to counteract the fibrination-defibrination syndrome is often warranted.

Sometimes in the interval between administration of EACA and the correction of a fibrinolytic coagulation defect, bleeding into pleural or pericardial cavities will produce a clot which because of its EACA content, may remain unlysed. There are a few cases reported where this situation has occurred and the patient has died with a clotted hemopericardium and hemothorax.

Following the report that EACA induces teratogenicity in animals, the material should not be given to women in the early months of pregnancy.

The use of Trasylol[R] as an antiplasmin in instances where there is demonstrable fibrinolytic activity is only experimental. A number of cases have been reported where there has been increased fibrinolytic activity associated with abnormal bleeding after open heart surgery. Such patients were treated with EACA, (100 mg.), with no significant effect being observed until Trasylol[R] was administered at a dose level of 10,000 units intravenously. The bleeding stopped and no significant clot lysis was seen *in vitro*. The usual total dosage for Trasylol[R] is between 10,000-20,000 units. While EACA inhibits plasminogen activator and has no effect on plasmin, Trasylol[R] inhibits plasmin and prevents fibrinolysis *in vitro* and *in vivo*. It appears to be a more prompt inhibitor of fibrinolytic activity than in EACA.

Summary

The place of epsilon aminocaproic acid (EACA) as an antidote to thrombolysis seems clear. As a result of its potential toxicity, it should be given only to patients in whom disordered fibrinolytic activity poses a significant threat to life or health. The use of a direct plasmin inhibitor such as Trasylol[R] may prove to be a more effective drug to counteract the fibrinolytic process.

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I certify that the statements made by me above are correct and complete—E. Spencer Watkins, Managing Editor.

The Medical Society of Virginia . . . .

Public Relations Institute

Under the capable coaching of Mr. Jim Reed, Director, AMA Communications Division, the 1966 Public Relations Institute equaled the best Football Classic from the starting whistle by Dr. F. J. L. "Bing" Blasingame, AMA Executive Vice President, as he gave us his reflections on "Medicine Today and Tomorrow" until Dr. Charles L. Hudson, President of AMA fired the final gun on "Freedom—The Wave of the Future".

It is impossible to call the most important "plays" because each section or panel scored a Touchdown or, as we call it in Virginia, "Struck Pay Dirt". If each State Medical Society could or would implement the knowledge and sugegstions gleaned from this Institute, we would pile up a big Score in improved Public Relations.

Dr. Blasingame is truly a Triple Threat Man having been engaged in the private practice of medicine, having taught in a medical school, and currently is doing a magnificent job in medical administration. I think his remarks can best be summed up in his final remarks, "Medicine is blessed with a great legacy, a vigorous present, and a challenging future. I urge you to accentuate the positive, to eschew negativism, and to create and develop constructive programs and public relations techniques that will assure a central role for Medicine in the dynamic period of history in which we live."

Among the subjects discussed were, "Medicine's PR Problems", "MD-Patient Relations", "The Implementation of Regional Medical Programs", and "The Auxiliary's Role in Public Relations".

The luncheon speaker, Thursday, was Mr. Philip Lesly who spoke on "The Complex Art of Public Relations in a Complex Society".

The afternoon session consisted of a discussion of 10 AMA Programs followed by a panel on "What's Your PR Problem?"

Friday morning's program was a question and answer presentation with the audience submitting the questions to a panel consisting of Directors of various departments of AMA.

The final morning session was a panel moderated by Mr. Aubrey D. Gates, Director of AMA Field Service Division, on "Medicare and Medical Public Relations". This covered problems that have arisen and how they have been handled, and the panel was composed of Directors of various departments of the AMA, both in Chicago and Washington. Mr. Gates summed up the remarks of the panel in these remarks, "Although we, the AMA and physicians, feel that the present Medicare Program is not in the best interest of the public, now since it is the law, we are all doing our best to make it work."

Dr. Charles Hudson fired the final gun of this classic at a Luncheon, August 26, and as the Goal Post came down, in the usual fashion, he stressed, "Freedom—The Wave of the Future". In his opinion, the AMA and American Medicine face the greatest crisis, or challenge, today. In the past, we have been concerned with something that appeared over the horizon and now we have reached that horizon—"Medicare is no longer a promise or a threat. It has become a fact. It is the law of the land."

For 30 years the government has been doing things for the public. There are too many people who favor everything the government does. If we are to be successful in preserving and revitalizing free enterprise in this country, our argument should not be that the government should not do this, or that the government has not the right to do that, but we should show,

backed with demonstrated proof, that there is no need for the government to do these things because it is being done so well by the private sector. Dr. Hudson sincerely believes that the public will accept and believe this approach.

Dr. Hudson believes that if all of us in the private sector of life can eliminate the need for government intervention, we will win our point with the public. He considers Medicare, as it now stands, is not an indigestible pill. Our concern is not with the program, as it now stands, but with the implication it perhaps carries for the future. Does it represent the first step toward TOTAL GOVERNMENT RESPONSIBILITY FOR MEDICAL CARE?

We must prove to the public that there is no need for government intervention. The physicians in the United States see about 2,100,000 patients daily. We have closer contact with more voting people than do the politicians. Keep ourselves free of criticism, improve our image in the minds of the public, so that when we speak, no one can say, "What you are thunders so loudly that I cannot hear what you say." If we do this, we should be able to do a job with our patients that will outweigh anything anybody else tells them about the way we do it.

In concluding, Dr. Hudson stressed that we must prove to the public our competency in technical, profession, and administrative, matters which, after all, are our responsibilities.

In this respect, he cited three fields of our public responsibility which is PUBLIC RELATIONS.

First—an evaluation of the quality of service in our offices, hospitals, and the patient's home. Let us be sure that the service equals or surpasses that of anywhere in the world.

Second—Let's make full use of the manpower available and make every effort to increase the manpower or womanpower by enlarging the graduating classes in our schools of medicine, technology, and, especially, in the field of medical assistants, through our whole hearted support of the American Association of Medical Assistants and their training programs.

Third—We must consider new approaches to the subject of National Health Care. We can best do this by attending, supporting, and expounding the programs of the National Health Forum and National Health Council.

Doctors, I realize this has been a lengthy report of the 1966 PR Institute. I hope it has been informative and not boring but I hope that, most of all, it has been stimulating and challenging to the point that each State and Competent Medical Society will see the value of these PR Institutes and that in '67 we will have a larger representation from all State and local medical societies to bring back to their societies, ideas to improve the image of the physician and, thereby, better Medical Public Relations.

JOHN WYATT DAVIS, JR., M.D., *Chairman*
Public Relations Committee

Woman's Auxiliary . . . .

Salute to Our Out-Going President

It is time for all of us to thank Mrs. George W. Kelly (Virginia) for a most enjoyable and successful year as President of the Woman's Auxiliary to The Medical Society of Virginia. Her theme for the year: "Let's put Virginia on the map" received the ardent support of the entire membership of the Woman's Auxiliary.

Virginia Collier was born in Commerce, Georgia. She received her degree from the University of Georgia in 1940, majoring in Home Economics. After graduation she taught 2½ years in Georgia. She met George Kelly on a house party before he entered college. They were married while he was a sophomore in the University of Georgia Medical School. Mrs. Kelly worked with the Delta Airlines 2½ years, during which time her husband finished medical school. Following graduation Dr. Kelly served his country in the Navy for two years. In 1947 they came to Pulaski, Virginia where they have made their home since. They have two sons, George W. Kelly, Jr., a junior at Tulane University studying architecture, and Ralph Kelly, a freshman in Pulaski High School.

Mrs. Kelly has been quite active in local and state auxiliary work. In 1961 she served as president of the local auxiliary to the Southwest Virginia Medical Society. In 1962 she was chairman of the Philanthropic Committee; in 1963 Chairman of the Civil Defense Committee, and 1964 President-elect of the Woman's Auxiliary to The Medical Society of Virginia. As chairman of the Membership and Organization Committee she organized and established the Woman's Auxiliary to the Roanoke Academy of Medicine in 1965. This past year she has accomplished a great deal as president of our Auxiliary. She has given her time and self generously to all, the local auxiliaries and needs of the state auxiliary. This has meant travel all over Virginia and many other states, including several days at the AMA Auxiliary Workshop in Chicago and AMA ERF Workshops in New York City.

During all her activities she has not neglected her home town. She is a most dedicated Baptist. She is a Sunday School teacher for the Young People, president of the Child's Study Club, president of the Pulaski Book Club.

Virginia's personal charm and enthusiasm made her a most welcome guest of county auxiliaries throughout the State. Often in her talks to these auxiliaries she urged the members to be aware of the shadows they cast on their communities. I speak for all the members when I state that this Auxiliary will reap benefits for years to come from the enviable shadow she has cast during her year as our leader.

Opal Thompson (Mrs. W. Nash)

AMA Auxiliary Meeting

Mrs. Ralph R. Landes, newly installed president, and Mrs. Daniel Anderson were among the national officers, chairmen, state presidents and presidents-elect attending the October 2-4 Conference of the Woman's Auxiliary to the American Medical Association.

His Excellency Vu Van Thai, Vietnamese ambassador to the United States, was the featured Conference speaker. He highlighted the impact of medical programs on his country's civilian population. Appearing ing with him were Norman Hoover, M.D., Mayo Clinic, describing his experiences in Viet Nam, and Ernest B. Howard, M.D., AMA assistant executive vice president, discussing the association's Viet Nam projects.

Other program features included presentations on Title XIX of the Medicare law by: Charles L. Hudson, M.D., AMA president; Ellen Winston, Ph.D., commissioner, HEW Welfare Administration; Howard

Hassard, executive director, California Medical Association, and Henry I. Fineberg, M.D., executive vice-president, Medical Society of the State of New York.

Additional program topics were "Action Programs for Women" and the Auxiliary's direct service projects for the homebound and elderly. The latter emphasized homemaker service, meal-on-wheels, and volunteer friendly visitor training.

No Big Reduction in Fats Is Warranted

No radical changes in the American diet are warranted on the basis of present knowledge about the role of food fats in cardiovascular disease. This conclusion was drawn in a recent report on "Dietary Fat and Human Health" issued by the Food and Nutrition Board of the National Academy of Sciences-National Research Council.

It is essentially one of the major conclusions reached by the Council on Foods and Nutrition of the American Medical Association in reports issued in 1962 and 1965. The NAS-NRC report is a revised and updated version of a document first published in 1958. The 1965 report by the AMA Council reaffirmed its 1962 position that "there is not sufficient information available at the present time to warrant a change in the American diet aimed at preventing heart disease in the general population."

General agreement also is found in the NAS-NRC and AMA Council reports on criteria for limiting food fats in the diet.

The Council on Foods and Nutrition said in 1965:

"The Council notes that after puberty, American men, and to a lesser extent women, show a progressive rise in serum betalipoprotein content and the associated chlolesterol, phospholipid, and triglycerides until age 60. Present knowledge suggests that this rise is associated with an increasing risk of coronary disease in men, whereas women are relatively protected until after menopause. The Council believes that the development of coronary disease in young American men may be attributed to a combination of unfavorable genetic and environmental factors. One environmental factor of importance to the genetically predisposed person may be the American diet."

"In addition it recommends that physicians consider offering similar diet modifications to young men vulnerable to coronary disease in an attempt to prevent the rise of serum lipids which, in time, might put them into high-risk categories."

The Food and Nutrition Board of NAS-NRC points out in its report that: (1) fats play a vital role in nutrition, and any drastic reduction in fat consumption would alter body metabolism in unpredictable and possibly harmful ways; (2) no positive case has ever been made against dietary fats as a direct cause of cardiovascular disease; (3) nevertheless, the attractiveness and availability of rich or fatty foods place the American consumer in some danger of overnutrition and dietary imbalance.

Therefore, the Board says: "Until we learn more about which fats are desirable nutritionally, the Board recommends that the American consumer should partake of the foods that make up a varied, adequate, and not overly rich diet and maintain a normal body weight by judicious control of caloric intake and by daily exercise."

For many Americans, a moderate reduction in total fat intake and some substitution of polyunsaturated for saturated fat may be indicated for purposes of dietary balance. "The degree to which this is done must be judged on an individual basis and, in adjustment of the diet, other changes of caloric and nutrient intake must be taken into consideration."

The AMA Council recommends that adjustment of dietary intake and the ratio of saturated to polyunsaturated fats be made under the supervision of a physician.

Editorial . . . .

New President



KARL KENNETH WALLACE, M.D.

KARL KENNETH WALLACE brings to the Presidency of The Medical Society of Virginia much knowledge and understanding of the problems of the medical profession.

For many years he served the Norfolk County Medical Society in various capacities, and as President. He has been a Member, and Chairman, of the Advisory Committee on Public Health to the Norfolk City Council. For the past several years he has represented the Second District on the Council of The Medical Society of Virginia.

In his special field he is Past President of the Virginia Radiological Society and Past Councilor for the American College of Radiology. He is a Fellow of the American College of Radiology and a Diplomate of the American Board of Radiology.

Outside of the field of medicine, he has found time to serve as President of the Norfolk Torch Club. He is an active Episcopalian and Mason.

Dr. Wallace was born in Dickinson, West Virginia, December 11, 1905, the son of James Boyd and Sarah Wise Wallace. He attended local schools of that area, Hampden-Sydney College, and graduated from the Medical College of Virginia in 1932. Internship and specialty training

were obtained at Norfolk General Hospital. He is now in private practice and Radiologist for Leigh Memorial Hospital in Norfolk and the Lakeview Clinic in Suffolk. He serves as Senior Radiologist for the Norfolk and Western Railway and the Seaboard Air Line Railroad.

Our new President is married to the former Frances Newman of Farmville, Virginia. They have three children: Dr. K. Kenneth Wallace, Jr., James Edmund Boyd Wallace, and Mrs. George B. Barner, Jr. There are nine grandchildren.

Whenever time permits, he is known to enjoy hunting, fishing and gardening.

We believe that the Presidency of our Society for the coming year is in very capable, competent, and dedicated hands, and we trust that Dr. Wallace will receive enthusiastic support in his difficult task.

W. C. S.

A Prophet Is Not Without Honor . . .

NUMEROUS BOOKS, lay magazines, medical journals, pharmaceutical brochures and miscellaneous articles, ad nauseum, have dealt with the do's and don'ts, the trials and tribulations, and the ultimate rewards of the expectant mother. On the other hand, few, if any guides, have been provided for the expectant father. It gives this journal pleasure to point out that this glaring oversight has been corrected recently by a Richmonder.

Mrs. Isabella C. Laude, R. N., whose husband is an anesthesiologist in the Richmond Memorial Hospital, has performed a real service for the medical profession by publishing a booklet entitled *Enjoying the Road to Fatherhood*. This deals in a light but effective manner with the role of the father throughout the months of pregnancy as well as the neo- and post-natal periods. This informative little booklet was prepared and published under the sponsorship of the American National Red Cross of Richmond. The excellent illustrations were made by Nan Rackett.

One of the oddities of this life is that the closer home a thing of this sort originates, the less attention is paid to it. Conversely, the greater the distance, the greater the interest. Orders have come in large numbers from Arizona, California, Florida and other faraway places. Thus far Virginia physicians and organizations have shown considerable negative enthusiasm for this worthwhile publication. Truly a prophet is not without honor save in his own country.

It is urged that prospective fathers, and those groups that have to deal with this neglected category of mankind, write the Richmond Chapter of the American Red Cross at 2 North Fifth Street, where copies of this booklet may be obtained for only twenty-five cents plus sales tax and postage. It is one of the best twenty-five cent buys the writer has encountered since inflation, and it is worth far more than the administration's new copper two-bit piece.

H. J. W.

News . . .

Calendar of Events

Electrocardiographic Diagnosis—The Medical College of Virginia—Weekly through January 26, 1967.

Weekly course offered by the Continuing Education Department and the Section of Cardiovascular Disease of the Department of Medicine each Thursday from 4:00 to 5:30 p.m. The course is designed for those physicians who have some knowledge and experience with electrocardiography and who desire to increase their skills in depth in techniques and interpretation, including pattern and vector analysis.

Conference on Handicapping Conditions of Childhood—Sponsored by Virginia Council on Health and Medical Care at request of the Nemours Foundation—Charlottesville—November 16-18, 1966.

McGuire Lectureship—The Medical College of Virginia—Richmond—November 17-19, 1966. The Thirty-Eighth Annual Lecture Series and Symposium on Pelvic Disease and Annual Meeting of the Society of Pelvic Surgeons.

Pulmonary Problems—University of Virginia School of Medicine—Charlottesville—November 18-19, 1966. (9 hours)

AMA Clinical Convention—Las Vegas, Nevada—November 27-30, 1966.

What The Internist Should Know About Cancer—Sponsored by the American College of Physicians at Columbia University College of Physicians and Surgeons—New York City—December 5-9, 1966.

Location of meeting will be Francis Delafield Hospital, 99 Fort Washington Avenue, New York.

Conference on Population Growth—Hotel John Marshall—Richmond—December 6, 1966.

Virginia Board of Medical Examiners—Hotel John Marshall—Richmond—December 11-12, 1966.

Seminar on Practical Aspect of Neurology and Psychiatry for the General Practitioner—Sponsored by the Department of Neurology and Psychiatry and the Office of Continuing Education of the University of Virginia School of Medicine—The Homestead—Hot Springs—January 26-28, 1967.

Virginia Academy of General Practice—Annual Meeting—The Homestead—Hot Springs—March 2-5, 1967.

National Medico-Legal Symposium—Fontainebleau Hotel—Miami Beach, Florida—March 9-11, 1967—Jointly sponsored by American Bar Association and American Medical Association.

National Conference on Rural Health—Queen Charlotte Hotel—Charlotte, North Carolina—March 10-11, 1967.

Annual Clinical Conference—Louise Obici Memorial Hospital, Suffolk—April 5, 1967.

Post Graduate Course on Premature Infants—University of Virginia School of Medicine—Charlottesville—April 7-8, 1967.

Guest Faculty includes Dr. C. A. Smith, Boston, and Dr. W. W. Wheeler, University of Kentucky.

Virginia Society of Anesthesiologists—4th Annual Meeting and Scientific Symposium—Sheraton Motor Inn—Richmond—April 14-16, 1967.

New Members.

During the month of September, the following new members were received into The Medical Society of Virginia:

William J. Cassidy, M.D., Reston
Edward E. Edgar, M.D., Charlottesville
George A. Ferre, M.D., Lynchburg
John W. Forbes, III, M.D., Stuarts Draft
William P. Glover, M.D., Wise
William M. Reid, Jr., M.D., Alexandria
Melvin L. Reubens, M.D., Newport News
Ottao A. Santos, M.D., Covington
Anderson T. Scott, Jr., M.D., Williamsburg
Michael J. Tsapos, M.D., Arlington

Hampton Medical Society.

New officers for this society are: president, Dr. Thomas W. Sale; vice-president, Dr. Jess Miller; and secretary-treasurer, Dr. Richard Clark.

Augusta County Medical Society.

Dr. C. W. Caulkins, Jr., Waynesboro, has been elected president of this society. Other officers are Dr. James Higgs, Staunton, Dr. Thomas Bell, Staunton, and Dr. Paul Woods, Waynesboro, vice-presidents; Dr. William MacIlwaine, Waynesboro, secretary; and Dr. Forest Harper, Staunton, treasurer.

Southwest Virginia Medical Society.

A two-day meeting of this Society was held at the Greystone Inn, Roaring Gap, North Carolina, September 8th and 9th, under the presidency of Dr. W. W. Walton, Pulaski. Guest speakers were Dr. James Respess, University of Virginia; Dr. J. H. Magee, Jefferson Hospital, Philadelphia; and Dr. Walter Keith Roberts, Radford College, Radford.

Dr. Joseph H. Early, Jr., Hillsville, was elected president; Dr. Carl E. Stark, Wytheville, vice-president; and Dr. Hal Smith, Christiansburg, secretary-treasurer.

Lynchburg Academy of Medicine.

The new president of the Academy is Dr. William H. Barney who succeeds Dr. Francis R. Whitehouse. Dr. Robert L. Morrison is president-elect; Dr. G. Edward Calvert, vice-president; and Dr. W. M. Massie, secretary-treasurer. The board of trustees is Drs. J. E. Mathias, W. H. Morris, Jr., C. H. Lippard, S. Miles Bouton, Jr., R. V. Crowder, Jr., and J. B. Jones.

Dr. Newman Again Honored.

At the September meeting of the Danville-Pittsylvania Academy of Medicine, Dr. Samuel Newman was presented with a scroll citing his medical, civic, cultural and religious activities.

Dr. Sam D. Graham

Has been elected mayor of Staunton.

New Health Officials.

Dr. J. B. Miller, formerly of Brownsville, Texas, is the new assistant health director for the district which includes Amherst, Nelson, Augusta and Highland Counties and the cities of Waynesboro, Staunton and Harrisonburg.

Dr. Leon A. Dickerson, recently of Charleston, West Virginia, has been appointed as director of the health district composed of the counties of Page, Clarke, Frederick, Rappahannock and Warren, and the city of Winchester.

Dr. William J. Hagood, Jr.,

Clover, has been re-elected vice-speaker of the Congress of Delegates of the American Academy of General Practice.

Southern Psychiatric Association.

Dr. Weir M. Tucker, Richmond, has been named chairman of the board of regents of this Association. Dr. James Asa Shield, also of Richmond, was named vice president.

Dr. Robert J. Faulconer,

Norfolk, has been presented the J. Shelton Horsley Award by the Virginia Division of the American Cancer Society. This is the first time since 1961 that the award has been given. Dr. Faulconer is the immediate past president of the Society.

Associates Wanted.

General practitioner, Richmond environs. Guaranteed salary with percentage leading to partnership or expense sharing arrangement. Need a second semi-retired physician also.

Send curriculum vitae to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Wanted.

Student health physician at Virginia Polytechnic Institute. For further information write or call Emory R. Irvin, M.D., Student Health Services, VPI, Blacksburg, Virginia. Phone 552-6444. (*Adv.*)

Wanted.

Student health physician for State Rehabilitation Hospital in beautiful Shenandoah Valley of Virginia. General practitioner or internist to work with internist director. Basic salary $12,000.00 with regular increments. Virginia license necessary. Contact director of medical services, Woodrow Wilson Rehabilitation Center, Fishersville, Virginia. (*Adv.*)

Psychiatrist Wanted.

Full-time physician as chief psychiatrist, director of active Mental Hygiene Clinic at Veterans Administration Regional Office. Board certification desired, not mandatory. Excellent opportunity to fill requirements for board certification. Salary $15,106 to $23,013, depending on qualifications. Fringe benefits—annual leave, sick leave, group life and health insurance, retirement program. Equal opportunity employer. Write or call collect: Director, Outpatient Clinic, VA Regional Office, 211 West Campbell Avenue, Roanoke, Virginia 24011. (*Adv.*)

Obituaries . . . .

Dr. Thomas Kitzmiller McKee,

Saltville, died October 1st at the age of ninety-two. He received his medical degree from the University College of Medicine, Richmond, in 1897, and had practiced in southwest Virginia for sixty-five years. Dr. McKee was a member of the Saltville School Board for forty years, town and county health officer for many years, a member of the Smyth County Draft Board for seventeen years, and a member of the Smyth County Welfare Board. He had served as president of the Southwest Virginia Medical Society and was the first president of the Smyth Medical Society. Dr. McKee had been a member of The Medical Society of Virginia for sixty-two years. In 1954, the Society named him as Doctor of the Year in Virginia.

Four sons and a daughter survive him. Two sons are doctors, Dr. J. B. McKee, Winchester, and Dr. T. P. McKee, Johnson City, Tennessee.

Dr. Daniel Doak Talley, Jr.,

Richmond, died October 10th. He was eighty-four years of age and a graduate of the Medical College of Virgina in 1906. Dr. Talley was one of the earliest specialists in radiology and was emeritus clinical professor of radiology at the Medical College of Virginia. He was a former vice president of the American Roentgen Ray Society. Dr. Talley had been a member of The Medical Society of Virginia for sixty-two years and was named a Fifty-Year Member in 1948.

His wife and three sons survive him. Dr. Talley, III, practices in Richmond, and Dr. Lilburn T. Talley in Millwood.

Dr. Elbyrne Grady Gill,

Roanoke, died September 30th following a heart attack. He was seventy-four of age and received his medical degree from Vanderbilt University in 1916. Dr. Gill founded the Gill Memorial Eye, Ear, Nose and Throat Hospital in Roanoke in 1926 and established a nationally recognized annual spring medical congress in the same year. He served as president of the Roanoke Lions Club, district governor and as international president in 1943-4. In 1943 he was cited as one of the ten outstanding Virginians. He had been a member of The Medical Society of Virginia since 1919.

His wife and three daughters survive him.

Dr. Lawrence Osmond Crumpler,

Danville, died September 20th, having been in ill health for several years. He was seventy-four years of age and graduated from the Medical College of Virginia in 1916. Dr. Crumpler served as medical director of the Dan River Mills for forty-three years, having retired in 1962. He had been a member of The Medical Society of Virginia for forty-six years.

His wife and two daughters survive him.

Dr. James Garnett Willis,

Fredericksburg, died September 10th, at the age of fifty-one. He received his medical degree from the University of Virginia in 1938. Dr. Willis was a past president of the Mary Washington Hospital staff and a member of the Pratt Clinic staff. He was a member of the local Kiwanis Club and the Elks Lodge. He was also a past president of the Virginia Society of Internal Medicine. Dr. Willis had been an active member of The Medical Society of Virginia for twenty years, and he had served as a member of the Council from his district.

He served four years as a medical officer in the U. S. Army, retiring with the rank of

Major after having served in the European theatre and in the Pacific. He worked in a Hiroshima hospital after the A-bomb was dropped.

His wife survives him.

Dr. Allen Leet Byrd,

Danville, died September 4th while in Raleigh to visit his brother-in-law who was a patient in the hospital. He was fifty-five years of age and a graduate of Jefferson Medical College, Philadelphia, in 1936. Dr Byrd practiced in North Carolina before locating in Danville in 1941. He was a veteran of World War II, retiring with the rank of major. He had been a member of The Medical Society of Virginia since 1946.

His wife and a daughter survive him.

Dr. Baldwin.

It is with deep sorrow that the Newport News Medical Society records the passing of Dr. Kenneth R. Baldwin.

Dr. Baldwin died unexpectedly on March 27th, at the age of 38 years.

Ken was born in Whiteville, North Carolina. He completed his premedical education at Duke University, and graduated from the Duke University School of Medicine in 1952. He interned at Grady Memorial Hospital. He served as a medical officer in the United States Air Force and was stationed in Korea. He was a resident physician in Obstetrics and Gynecology at the New York Lying-In Hospital, at Cornell University-New York Hospital Medical Center. Subsequently he was a fellow in Endocrinology at the Medical College of Georgia. He was an assistant professor of Obstetrics and Gynecology at the Medical College of Virginia prior to entering private practice in Newport News, Virginia in 1960. He was active in establishing an Obstetrical and Gynecological residency program at Riverside Hospital, and was a past-president of that staff.

He was a Diplomat of the American Board of Obstetrics and Gynecology, and a member of the South Atlantic Association of Obstetricians and Gynecologists, the Southeastern Obstetrical and Gynecological Society, the Southern Medical Association, The Medical Society of Virginia, and the American Medical Association.

While his professional accomplishments and interest attest to his ability in his chosen segment of medicine, they fail to adequately express that single attribute which made him the outstanding physician we knew and loved—his totally unselfish dedication to the care and welfare of his patients.

Ken is survived by his wife, a daughter, and two sons.

Whereas Ken was beloved by his many friends and patients and fellow physicians,

Therefore, Be It Resolved that the Newport News Medical Society expresses its gratitude for having been allowed to know and work with him, its deep and sincere regret at his passing, and its deepest sympathy to his family.

Be It Further Resolved that a copy of this resolution be spread upon the minutes of the Newport News Medical Society, a copy be forwarded to the Virginia Medical Monthly, and copies be forwarded to members of his family.

Thomas A. Wash, M.D.
Harold L. Williams, M.D.
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"'Tranquilizer' is not a good word"[1]

"THIS classification is psychologically too seductive, pharmacologically too unspecific, and in terms of results not infrequently untrue."[2]

What is a tranquilizer? According to the 24th Edition of Dorland's Medical Dictionary[3] a tranquilizer is "an agent which acts on the emotional state, quieting or calming the patient without affecting clarity of consciousness."

Defining a drug by its effects, however, can be misleading. The same effects by which the dictionary defines a tranquilizer have sometimes been seen after administration of a sedative — or, for that matter, a placebo.

Ambiguous though the term may be, it appears to be here to stay. The 1966 edition of the Physicians' Desk Reference[4] lists 42 tranquilizers indicated for treatment of anxiety and apprehensive states.

'Tranquilizers' have differences in action, differences in effect

Although all tranquilizers are intended to calm anxious patients there are differences in their actions — and in their effects. They have been divided into three categories — the rauwolfia group, the 'minor' tranquilizers, and the phenothiazines.[5]

Although the tranquilizing effect of rauwolfia has been known for centuries, its use as an antipsychotic agent in current practice has diminished.[5]

A 'minor' tranquilizer is often prescribed to achieve more than one effect. Thus, besides being tranquilizers some of these compounds may be muscle relaxants, antihistaminics with some calming action, anticholinergic sedatives, or antispasmodics.[5]

The phenothiazines are considered 'major' tranquilizers because they alter psychotic behavior.[1] This classification may have done them more harm than good because it implies that the phenothiazines should be reserved for the more severely disturbed. This is not necessarily true.

The phenothiazines — and the problem of sedation

One of the problems of prescribing phenothiazines for ambulatory patients has been the fear that excessive sedation will impair the patient's ability to function. This, however, is less of a problem with some of the phenothiazines.

"Clinically they may be differentiated primarily in terms of their potency and the extent of their sedative effect, which appear to be inversely proportional. That is, the least potent, the one which is used in highest dosage, chlorpromazine, is the most sedative, while the reverse holds true for fluphenazine."[6]

In a recent report on various studies conducted over several years evaluating 360 patients treated for anxiety and stress with seven phenothiazines, this inverse relationship of potency to sedation was confirmed.[7] Also under consideration was the degree to which the particular phenothiazines neutralized anxiety (the angolytic index). Interestingly enough there was, again, an inverse relationship. The most sedative of the phenothiazines appeared to be the least active in neutralizing anxiety. Fluphenazine, one of the least sedative, on the other hand, was found to be most effective in relieving anxiety.[7]

RELATIVE SEDATIVE AND ANGOLYTIC INDICES OF PRINCIPAL PHENOTHIAZINES*

DRUG	SEDATIVE INDEX	ANGOLYTIC INDEX	BASED ON STANDARD DOSE OF
Chlorpromazine	100	15	25 mgs.
Triflupromazine	100	15	25 mgs.
Thioridazine	90	17	25 mgs.
Perphenazine	15	25	4 mgs.
Carphenazine	25	25	25 mgs.
Trifluoperazine	3.3	95	2.0 mgs.
Fluphenazine	3.5	100	2.5 mgs.

*adapted from Sainz[7]

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Contraindications: Do not use with high doses of hypnotics or in patients with subcortical brain damage. Use with caution in patients with a history of convulsive disorders. Severe reactions may occur in patients with idiosyncrasy to other centrally-acting drugs, and severe hypotension may occur in patients with special medical disorders, e.g. mitral insufficiency and pheochromocytoma.

Precautions: Effects of atropine, anesthetics and C.N.S. depressants may be potentiated. Hypotension may occur in patients undergoing surgery. Do not use epinephrine for treatment of the hypotensive reactions which may appear in patients on phenothiazine therapy.

Side Effects: Extrapyramidal reactions, allergic skin reactions, the possibility of anaphylaxis, drowsiness, visual blurring, dizziness, insomnia, nausea, anorexia, salivation, edema, perspiration, dry mouth, abnormal lactation, polyuria, hypotension, and jaundice and biliary stasis may occur. Routine blood counts are recommended to determine possible blood dyscrasias; if symptoms of upper respiratory infection occur, discontinue drug and institute appropriate therapy.

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References: 1. Simpson, G.M.: Postgrad. Med. 39:557, 1966. 2. Freyhan, F.A.: Am. J. Psychiat. 115:577, 1959. 3. Dorland's Illustrated Medical Dictionary, ed. 24, Philadelphia, W. B. Saunders Co., 1965, p. 1603. 4. Physicians' Desk Reference, 1966, Oradell, N.J., 1965, p. 310. 5. Cohen, S.: Northwest Med.: 65:197, 1966. 6. Detre, T., and Jarecki, H.: Connecticut Med. 25:553, 1961. 7. Sainz, A.: Psychosomatics 5:167, 1964.

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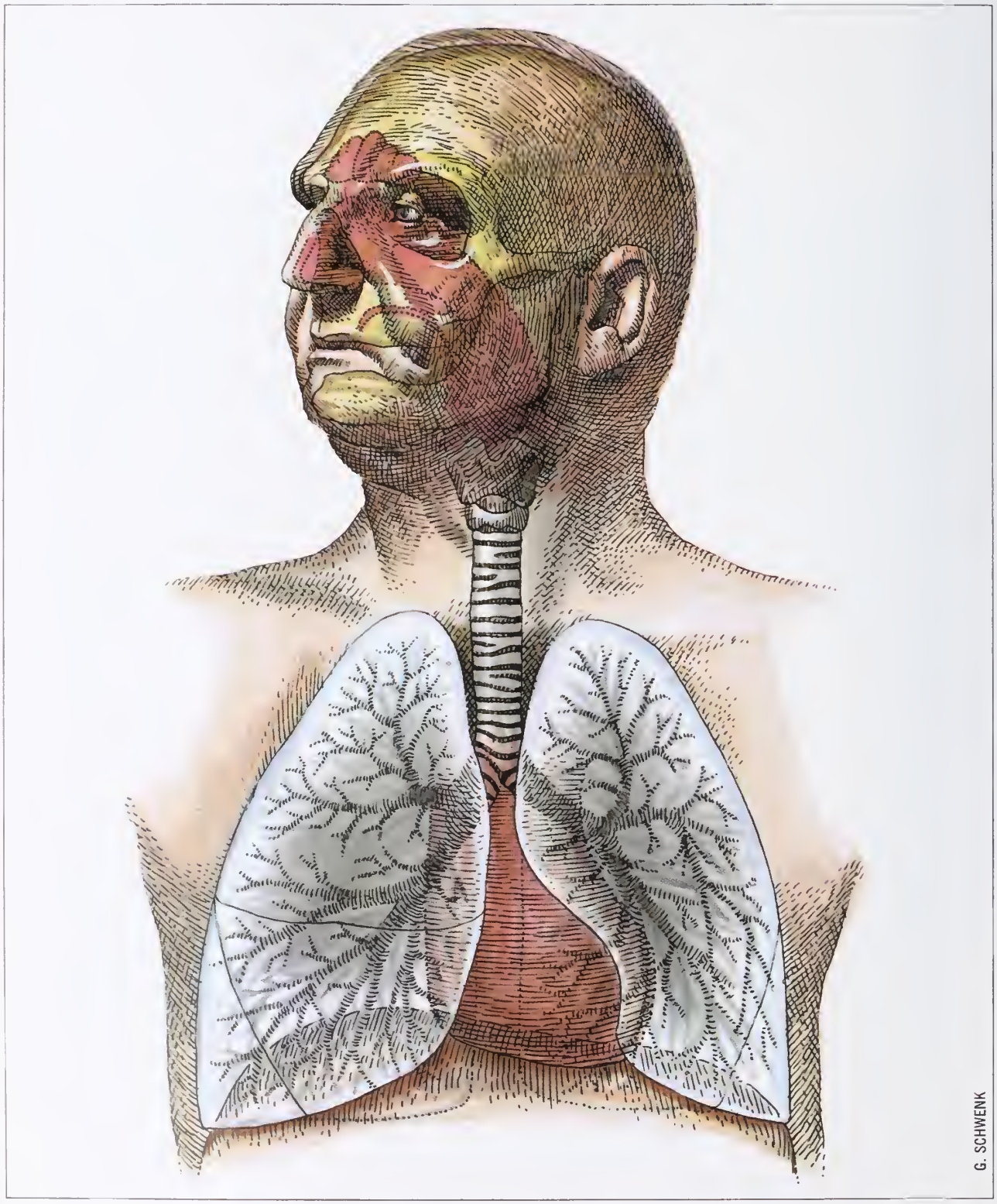
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this issue: the common cold and the aging patient

the common cold and the aging patient

Louis J. Vorhaus, II, M.D., F.A.C.P.



Effects of aging on the anatomic and physiologic aspects of the respiratory apparatus.

The chest becomes more fixed, less mobile and less elastic as the bronchial walls and thoracic ligaments lose elasticity. The diaphragm and intercostal muscles atrophy and weaken. The lungs become smaller, flabbier and weigh less, decreasing vital and total lung capacity, increasing residual volume and the alveolar dead space.

Sir William Osler described pneumonia as the welcome friend of the aged patient, because the patient with pneumonia usually died quietly. But today, the well-informed physician is an even better friend of the aging patient, since it is better to live than to die, no matter how quietly.

One of the first avenues of approach in the control of the hazards of respiratory disease in the aging patient is prompt and proper attention to the common cold or upper respiratory infection. The common cold may be the first step in the relatively short path to lower respiratory infection, broncho-pneumonia and death. This train of events occurs frequently among older persons. Indeed, pneumonia is one of the most common causes of their admission to hospitals and ranks high on the list of geriatric killers. Colds are more debilitating in elderly people and the aged are more likely candidates for secondary infections such as sinusitis and bronchitis. These infections, in turn, are more prone to lead to broncho-pneumonia, because of lowered resistance and anatomic and physiologic changes in the lungs of the elderly.

What is different about the respiratory tree of an aged person and that of an otherwise healthy younger adult? Aging certainly takes its toll on all parts of the body, affecting both anatomic and physiologic aspects of the respiratory apparatus. These changes are in part due to the wear and tear that occurs over the years; the repeated bouts of respiratory infection, long exposure to atmospheric pollutants, to occupational inhalants, smoking, malnutrition, obesity, inactivity and the development of other diseases which may affect the lungs.

With the passage of years, the lungs change. They become scarred and emphysematous and lose their compliance. The whole chest becomes more fixed, less mobile and less elastic.

The anatomic changes that occur in aging render the lungs less efficient. Tests of pulmonary function in senescence show a deterioration characterized by a decrease in vital capacity and total lung capacity, an increase in residual volume and alveolar dead space. Maximum breathing capacity is reduced and uniformity of ventilation deteriorates. These problems are often aggravated by the obstructed breathing, fever and secondary infection associated with the common cold, placing an additional stress on the entire cardiopulmonary reserve.

In addition, the efficiency of a cough is below par in older persons even though they are in good health. This is partly due to the decreased respiratory excursions and distensibility of the chest wall, and partly from loss of elasticity of bronchial walls which tend to make them collapse in a cough.

The elderly patient's resistance to infection is often reduced. Nutritional deficiencies are more common in aged people. There is some evidence to indicate that their capacity to respond to stress is less efficient. Finally, there is often relatively meager symptomatic response to acute disease. The absence of obvious or dramatic clinical signs and symptoms of severe illness is particularly dangerous because, coming as it

(concluded on following page)

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does in a person whose defenses are weakened both locally and systemically, pulmonary disease may progress rapidly to irreversible stages before medical attention is sought. Respiratory infection is especially hazardous because the aged patient responds badly to hypoxia. Not only is his response to oxygen lack impaired, but the work of breathing, due to decreased compliance of the lung and increased stiffness of the thorax, is markedly augmented.
Many patients late in life are in a precarious and delicate cardiopulmonary balance which is easily decompensated from relatively minor insults such as colds and upper respiratory infections.

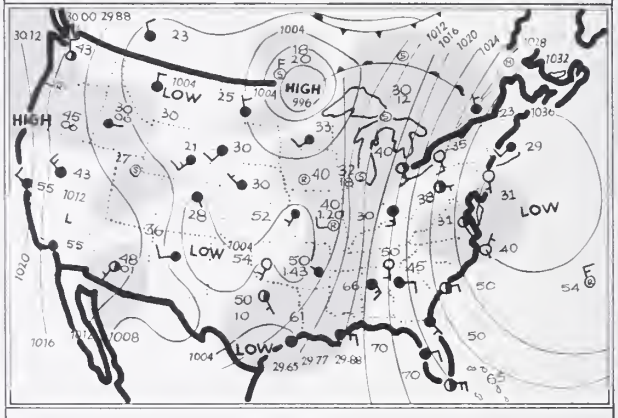
For all of these reasons, geriatricians long have stressed the importance of preventing respiratory insults. Today we have better ways of treating respiratory infection, improved techniques for clearing the lungs and bronchial tubes of secretions and better understanding of ways of improving ventilation. We possess a broader spectrum of antimicrobial agents including newer ones to deal with previously resistant organisms. Even so, the death rate from pneumonia is high in older people, and it is preferable to avoid the disease than to treat it. To do so, attention must be paid to the general maintenance of good health and all that implies, as well as to the prevention, elimination and treatment of associated conditions that predispose to or cause pneumonia such as chronic upper or lower respiratory infection, respiratory allergy, chronic sinusitis and exposure to inspired irritants.

Colds and other minor respiratory infections, which favor the development of broncho-pneumonia, should be treated vigorously and promptly, particularly those patients whose aging process has been accompanied by the development of chronic pulmonary disease. Upper respiratory passages should be cleared with decongestants. Sinuses should be drained adequately. And, when indicated, appropriate antimicrobial therapy should be instituted before serious infection of the lower respiratory tree supervenes.

In decades past it was understandable that physicians welcomed pneumonia for the aged patients because it offered them a quiet and peaceful demise. Today we recognize that in many cases, peaceful as it may have been, such deaths were often avoidable. With the current knowledge and understanding of the problems that respiratory infections impose on aging people, vigilant medical attention can often restore them to a vigorous, rewarding and productive life so that the many opportunities that exist today for people to enjoy their golden years are realized and not stolen by untimely death.

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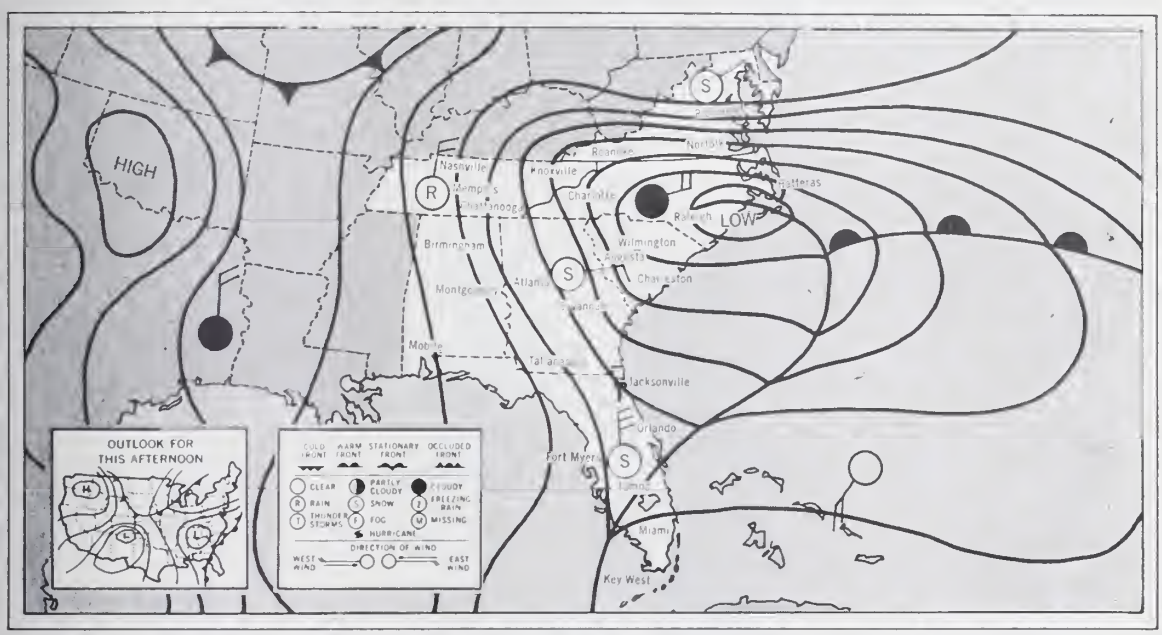
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1. McCabe, W. R., and Jackson, G. G.: New England J. Med. 272:1037, 1965.

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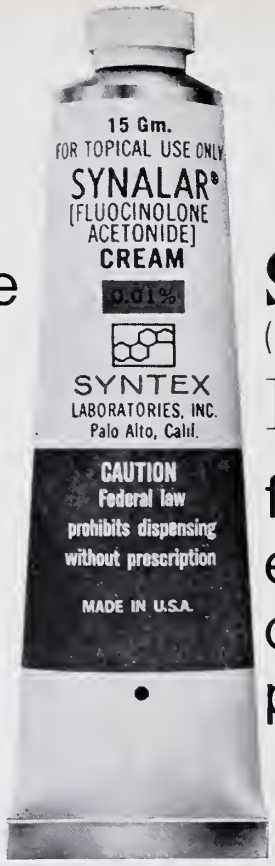
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Now you can prescribe as little or as much Synalar Cream 0.01% as is needed for a particular therapeutic problem in a size that permits the greatest economy for your patient. The new 15 Gm. tube, for example, is best suited for short-term therapy and for small sites. For more extensive body areas prescribe the 45 Gm. tube—a size that's also ideal for your treatment table. And the 120 Gm. jar is most economical for hospital use. Thus, with Synalar Cream 0.01%, you have the superiority of a modern topical corticosteroid shown to be more effective than 1% hydrocortisone[1-3] plus the economy that makes therapy practical for use in more dermatologic conditions, in long-term maintenance, with occlusive dressings in resistant cases, and in extensive area involvement.

Contraindications: Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of its components. **Precautions:** 1. *General*—Synalar Cream 0.01% is virtually nonsensitizing and nonirritating. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. 2. *Occlusive dressing method*—With occlusion of extensive areas, systemic absorption of the corticosteroid may occur, and suitable precautions should be taken. Occasional patients may show contact sensitivity to a particular dressing material or adhesive. Miliaria, folliculitis, or pyodermas have been seen infrequently with the use of this technique. The development of infection requires appropriate antibacterial therapy and discontinuation of the occlusive dressing method. Local atrophy and striae have been reported with protracted occlusive dressing therapy. While lesion relapses can be expected to occur in many psoriatic patients, remissions may persist for several weeks to several months in favorable cases. The patient whose psoriasis is in an active stage, with recent appearance of new lesions, may not be a good candidate and may show early relapse. Some plastic films may be flammable, and due care should be exercised in their use. Similarly, caution should be employed when such films are used on or left near children to avoid the possibility of accidental suffocation. **Side Effects:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. **References:** 1. Cahn, M. M., and Levy, E. J.: J New Drugs 1:262 (Nov.-Dec.) 1961. 2. Meenan, F. O.: J Iris Med Ass 52:75 (Mar.) 1963. 3. Robinson, H. M., Jr., Raskin, J., and Dunseath, W. J. R.: Southern Med J 56:797 (Jul.) 1963.

of a modern
corticosteroid
economy of
hydrocortisone

Now...a choice of 3
economical sizes


120 Gm. jar


15 Gm. tube



45 Gm. tube

fluocinolone acetonide — an original steroid from
SYNTEX
LABORATORIES INC., PALO ALTO, CALIF.



the mid-rift!

Our population's bursting at the seams.

It's eat. Eat. Eat.

And then diet. Diet. Diet.

With the latest No-calorie.
No carbohydrate. No-vitamin. No exercise.
400-hour Kamikaze Plan!

When it's over, it's eat, eat, eat again.

As a professional you can help wrest some sense from this nonsense: first, by cautioning against skipping meals, and second by pointing the way to realistic weight control through nourishing meals every day. Day after day.

Naturally, balanced diets and nourishing, palatable dairy foods go together; they always have.

Project Weight Watch has been initiated to assist you. Its scope is nationwide, its purpose is to focus professional attention on the problem.

To help you translate your concern to your patients, a portfolio of materials is available. Send for it. Help stamp out needless waist.

PROJECT WEIGHT WATCH

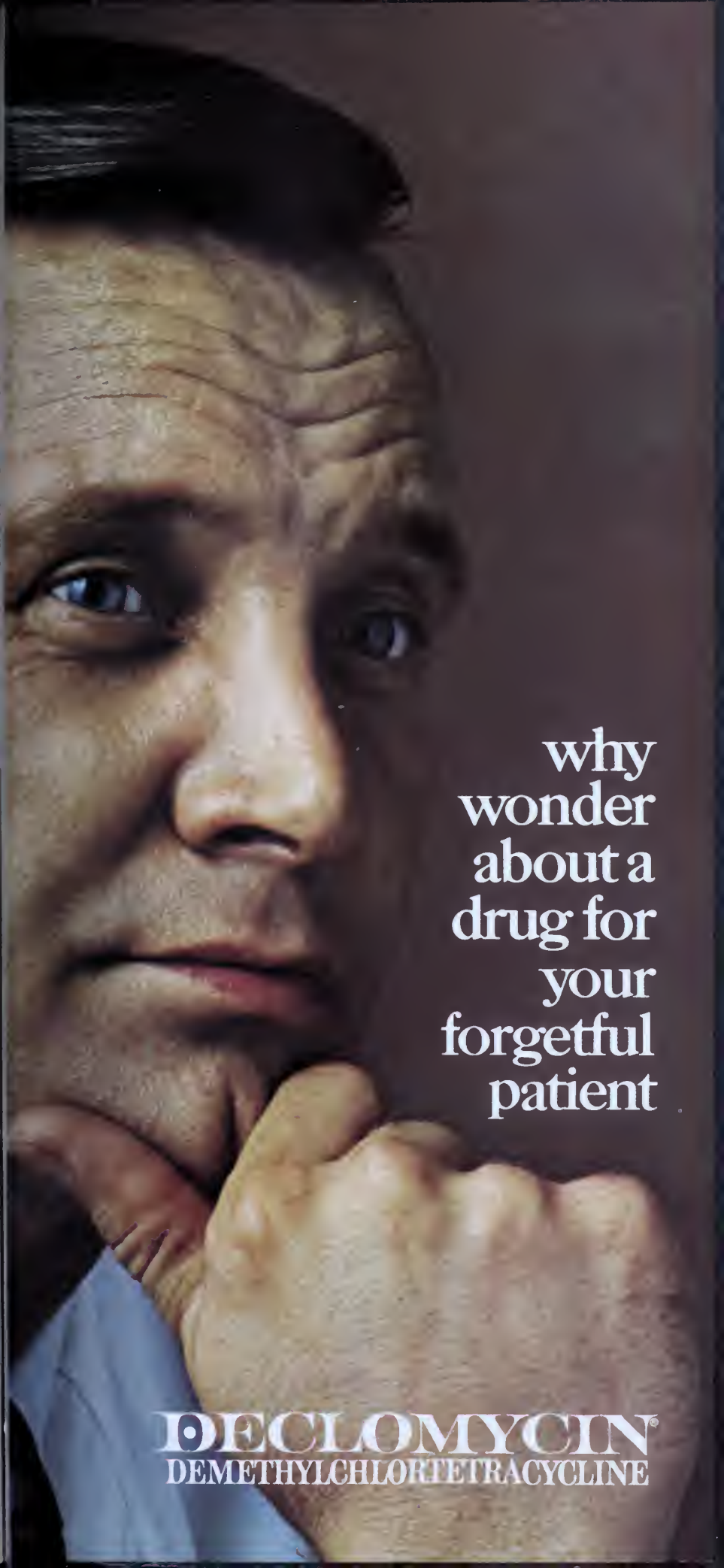
The Dairy Council of Roanoke
537 West Campbell Avenue
Roanoke, Virginia 24013

The Dairy Council
12 Terry Court
Staunton, Virginia 24401

Dairy Council of Tidewater
3338 Cromwell Drive
Norfolk, Virginia 23509

Dairy Council of Richmond and Affiliates, Inc.
2112 Spencer Road
Richmond, Virginia 23230

Dairy Council of Greater Metropolitan Washington
1511 K Street, N. W.
Washington, D. C. 20005


why
wonder
about a
drug for
your
forgetful
patient
DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE

activity doesn't stop when dosage does

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE
300 mg FILM COATED TABLETS
are made for b.i.d.

Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

Lederle

LEDERLE LABORATORIES
A Division of American Cyanamid Company, Pearl River, New York
423-6-4072

brings peace to the hyperactive colon



CANTIL®
(mepenzolate bromide)

helps restore normal motility and tone

"In 40 of 44 cases of irritable or spastic colon, Cantil [mepenzolate bromide] or Cantil with Phenobarbital reduced or abolished abdominal pain, diarrhea and distention and promoted restoration of normal bowel function . . . Cantil [mepenzolate bromide] proved to be singularly free of anticholinergic side-effects . . . Urinary retention, noted in two cases was eliminated in one by reducing dosage."[1]

IN BRIEF: One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth or blurring of vision may occur but it is usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy—withhold in glaucoma. Cantil with Phenobarbital is contraindicated in patients sensitive to phenobarbital.

Supplied: CANTIL (mepenzolate bromide)—25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL—containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

1. Riese, J. A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

LAKESIDE LABORATORIES, INC. Milwaukee, Wisconsin 53201

LAKESIDE

PRODUCTS
FOR PATIENTS
YOU SEE
EVERY DAY

DACTILASE®

Each tablet contains:
Dactil® (piperidolate hydrochloride), 50 mg.;
Standardized cellulolytic* enzyme, 2 mg.;
Standardized amylolytic enzyme, 15 mg.;
Standardized proteolytic enzyme, 10 mg.;
Pancreatin 3X** (source of lipolytic activity), 100 mg.; Taurocholic acid, 15 mg.

*Need in human nutrition not established.
**As acid resistant granules equivalent in activity to 300 mg. Pancreatin N.F.



In chronic or acute indigestion, fluttery, gassy stomachs obtain prompt, gratifying relief through the antispasmodic, surface anesthetic and enzymatic activity of Dactilase. Dactilase decreases hypermotility and pain and reduces the production of gas. Dactilase does not induce stasis, but helps restore normal tone. It has little or no effect on enzyme secretions, but *adds* enzymes, thus contributing to the digestive efficiency of the patient.

Side Effects and Contraindications: Dactilase is almost entirely free of side effects. However, it should be withheld in glaucoma and in jaundice due to complete biliary obstruction.

Administration and Dosage: One tablet with, or immediately following, each meal. Tablets should be swallowed whole.

Supplied: Bottles of 60 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

For cold hands and feet, nothing beats hot stoves—but they *are* awkward to carry around. Now Gerilid, in good-tasting take-along chewable tablets can provide rapid vasodilation of peripheral circulation, bringing real warmth to the extremities and decreasing sensitivity to sudden temperature change. Patients *like* Gerilid and *know* they are getting relief.

WARMTH FOR COLD HANDS AND FEET



GERILID™

Each chewable tablet contains:
nicotinic acid (niacin) 75 mg. and
aminoacetic acid (glycine) 750 mg.

Administration and Dosage: One or two chewable tablets 3 times a day before meals. If flushing is objectionable, dosage may be lowered. However, tolerance to flushing usually develops without loss of efficacy in regard to vasodilation. The recommended dosage should not be exceeded.

Side effects: Occasional lightheadedness or transient itching which may disappear with continued use. There are no known contraindications; however, caution is advised when there is a concomitant administration of a coronary vasodilator.

Supplied: Packages of 50 chewable tablets.

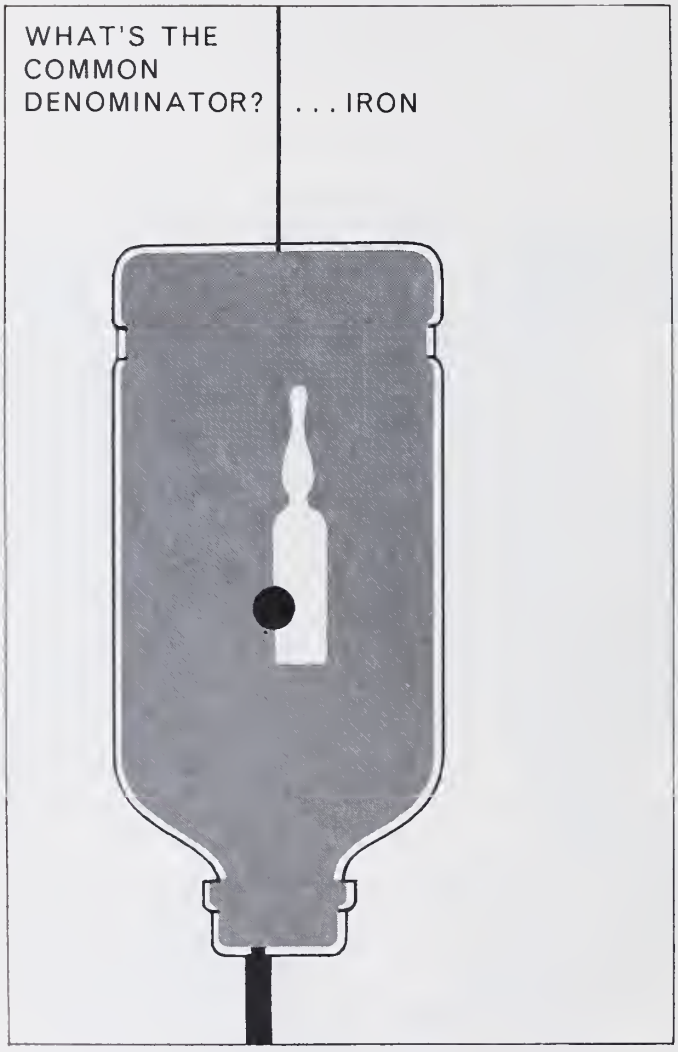
Also available in liquid form as Geriliquid®, in bottles of 8 and 16 ounces.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE

PRODUCTS
FOR PATIENTS
YOU SEE
EVERY DAY

In fact, there's as much iron...250 mg. ...in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood. When iron deficient patients are intolerant of oral iron...or orally administered iron proves ineffective or impractical...or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves.



IMFERON®
(iron dextran injection)

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a *source of iron;* infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylatoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4; 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

METAHYDRIN (trichlormethiazide) is prescribed by physicians because it not only approximates the diuretic efficacy of parenteral meralluride injection . . . but, *it is the least expensive of all "brand-name" thiazides.* Therefore, when you prescribe METAHYDRIN (trichlormethiazide) your patients receive the thiazide diuretic that removes a little more salt and water than earlier thiazides, with relatively less loss of potassium . . . and, it's therapy they can more easily afford . . . *only pennies a day.*



METAHYDRIN®

(trichlormethiazide)

oral diuretic

Dosage: One 2 or 4 mg. tablet once or twice daily.

Precautions: As with all effective diuretics, vigorous therapy may produce electrolyte depletion. Patients with severely reduced renal function should be observed carefully since thiazides may be contraindicated. Care should be taken with patients predisposed to diabetes or gout. Patients with a tendency to potassium deficiency, as in hepatic cirrhosis or diarrheal syndromes, or those under therapy with digitalis, ACTH, or certain adrenal steroids, also should be watched carefully.

Side Effects: Nausea, flushing, constipation, skin rash, muscle cramps and gastric discomfort have occasionally been noted; rarely thrombocytopenia and bone marrow depression, photosensitivity, cholestatic jaundice, pancreatitis, perimacular edema, gout and diabetes have been caused by the administration of thiazides.

Contraindications: Complete renal shutdown; rising azotemia or development of hyperkalemia or acidosis in severe renal disease; demonstrated hypersensitivity.

How Supplied: Bottles of 100 and 1000 tablets.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE

PRODUCTS
FOR PATIENTS
YOU SEE
EVERY DAY

BRING IT DOWN AND KEEP IT DOWN



Metatensin lowers blood pressure and keeps it low—effectively and economically. It combines reserpine with trichlormethiazide which affords more potent saluresis with less loss of potassium than from earlier thiazides. Reserpine contributes antihypertensive effect by relieving anxiety and tension. Metatensin is well-tolerated over long periods; with its effectiveness and economy it assures antihypertensive therapy you and your patients can stay with.

METATENSIN®

Each scored tablet contains:
METAHYDRIN® (trichlormethiazide)
2 mg. or 4 mg. and
Reserpine 0.1 mg.

Usual adult dose: One tablet twice daily. **Precautions and side effects:** Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing steroids, should be observed for signs of hypokalemia. With thiazides, electrolyte depletion, diabetes, gout, granulopenia, nausea, pancreatitis, cholestatic jaundice, flushing, mild muscle cramps, constipation, photosensitivity, acute myopia, perimacular edema, paresthesias, neonatal bone marrow depression in infants of mothers who received thiazides during pregnancy, skin rash or purpura with or without thrombocytopenia, may occur. With reserpine, untoward effects may include depression, peptic ulcer and bronchial asthma. Withdraw medication at least 7 days prior to electroshock therapy, 2 weeks prior to elective surgery.

Contraindications: Complete renal shutdown, rising azotemia or development of hyperkalemia or acidosis in severe renal disease.

Supplied: Metatensin tablets, 2 mg., 4 mg.—bottles of 100 and 1000.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

When depressed patients say:





"I'm tired all day long"

NORPRAMIN®

(desipramine hydrochloride)

non-sedating · rapid-acting
ANTIDEPRESSANT

helps restore normal patterns of sleep and activity

Norpramin (desipramine hydrochloride) often reverses the signs and symptoms of depression including sleep disturbances feeling of sadness, guilt, anxiety, worthlessness and bodily complaints without physical basis. In 2-5 days most patients become more hopeful, active and less weighed down by their problems.

Norpramin (desipramine hydrochloride) has only slight sedative qualities, nevertheless sleep disturbances and restlessness are relieved as depression is lifted. If anxiety or tension develop or persist a tranquilizer may be added or dosage reduced. Side effects are usually mild, occurring in about 1 of 4 patients.

Indications: In moderate to severe depression—neurotic or psychotic. **Dosage:** Optimal results are obtained at a dosage of two 25 mg. tablets t.i.d. (150 mg./day). **Contraindications and Precautions:** Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease and epilepsy. Should not be given within two weeks of an MAO inhibitor. Safety in human pregnancy has not been established. **Adverse Effects:** Usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste", sensory illusion, tinnitus, agitation and stimulation, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, allergy, transient eosinophilia, granulopenia, altered liver function, ataxia and extrapyramidal signs. **Supplied:** Norpramin (desipramine hydrochloride) tablets of 25 mg., in bottles of 50, 500 and 1000.

PRODUCTS FOR PATIENTS YOU SEE EVERY DAY LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

In colicky infants Pediatric Piptal with Phenobarbital slows down spasm, diminishes pain and crying and improves feeding patterns. It permits sleep and rest for patient and family. The less than hypnotic amount of phenobarbital in the recommended dose affords a mild, calming action and enhances the antispasmodic action of Piptal (pipenzolate bromide). The latter drug, as reported in the medical literature, has a favorable ratio of effectiveness to side-effects which is unusual in anticholinergics and thus is particularly appropriate to pediatric use.



PEDIATRIC PIPTAL® WITH PHENOBARBITAL

each cc. contains 6 mg. phenobarbital (warning: may be habit forming); 4 mg. Piptal® (pipenzolate bromide), and 20% alcohol.

Pleasant-tasting Pediatric Piptal with Phenobarbital is miscible in milk, formulas and fruit juices, and may also be given by dropper directly on the infant's tongue. Dosage is 0.5 cc. 15 minutes before feeding; in severe cases, 1.0 cc. four times daily. High doses may occasionally cause constipation with tenesmus and, rarely, flushing without fever. It is contraindicated in bowel obstruction or sensitivity to phenobarbital or anticholinergics. Available in 30 cc. dropper bottles, droppers calibrated to deliver 0.5 cc.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

Doctor,

Here is the Abbott anorectic program designed to meet the individual needs of your overweight patients.



mood elevation

Abbott
Anorectic
Program

DESOXYN® Gradumet® (methamphetamine hydrochloride)

Smooth appetite control plus mood elevation.

The obese patient on a diet often has to battle depression as well as overweight. Desoxyn Gradumet helps the dieter in both battles by elevating the mood while it curbs the appetite. Thanks to the Gradumet, medication is smoothly released all-day from a single oral dose.

If she can't take plain amphetamine, put her on DESBUTAL® Gradumet

Calms anxieties; controls compulsive eating.

Desbutal Gradumet provides 2 drugs in 2 tablet sections, combined back to back to form a single tablet. One section contains Desoxyn to curb the appetite and lift the mood; the other contains Nembutal® (pentobarbital) to calm the patient and counteract any excessive stimulation.

Both drugs are released in an effective dosage ratio throughout the day.



controlled release

Abbott
Anorectic
Program

Not all long-release vehicles are the same. Here is why the Gradumet is different and what it means for your overweight patients.



The release action is purely physical and relies on only one factor common to every patient: gastrointestinal fluid. There is no dependence on enteric coatings, enzymes, motility, or an "ideal" ion concentration in the gastrointestinal tract.

Your patients get a measured amount of medication, moment by moment, throughout the day.

They are not subjected to ups and downs of drug release . . . or to erratic release from patient to patient . . . or to erratic release in the same patient from day to day.

That's why the Gradumet provides controlled-release as well as long release.

Perhaps you saw the Gradumet model demonstration which shows that the release is entirely physical. When fluid is added, the drug in the outer ends of the channels dissolves. As fluid penetrates deeper into the channels, there is a continuous release of medication. The rate of release is rigidly controlled by the size and number of channels.

choice of 5 strengths

Abbott
Anorectic
Program

DESOXYN Gradumet
Methamphetamine Hydrochloride in Long-Release Dose Form



5 mg. 10 mg. 15 mg.

DESBUTAL 10 Gradumet
10 mg. Methamphetamine Hydrochloride,
60 mg. Pentobarbital Sodium



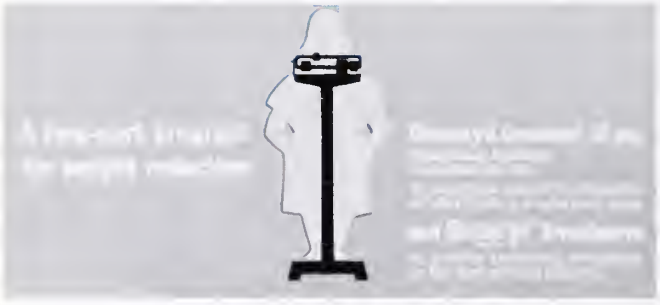
Front Side

DESBUTAL 15 Gradumet
15 mg. Methamphetamine Hydrochloride,
90 mg. Pentobarbital Sodium



Front Side

samples available



Each sample contains 6 tablets and a filled Sucaryl® Sweetener dispenser. For a supply, write Abbott Laboratories or ask your Abbott man.



economy

Patients, in many cases, save enough to get five weeks of medication for the price of four, compared to other leading long-release anorectics.

CONTRAINDICATION: Desoxyn and Desbutal are contraindicated in patients taking a monoamine oxidase inhibitor.

PRECAUTIONS: Use with caution in patients with hypertension, cardiovascular disease, hyperthyroidism, old age, or those sensitive to sympathomimetic drugs or ephedrine and its derivatives. Careful supervision is advisable with maladjusted individuals.

ABBOTT

Gradumet—long-release dose form, Abbott: U.S. Pat. No. 2,987,445.
Sucaryl—Abbott brand of low and non-caloric sweeteners.

601060



ACHROCIDIN®

Tetracycline HCl-Antihistamine-Analgesic Compound

Each tablet contains:

ACHROMYCIN® Tetracycline HCl	125 mg
Phenacetin	120 mg
Caffeine	30 mg
Salicylamide	150 mg
Chlorothen Citrate	25 mg

The patient can feel better while getting better. ACHROCIDIN brings the treatment together in a single prescription—prompt symptomatic relief together with early, potent control of the tetracycline-sensitive organisms frequently responsible for complications leading to prolonged disability in the susceptible patient.

Effective in controlling complicating tetracycline-sensitive bacterial infection and providing symptomatic relief in allergic diseases of the upper respiratory tract.

Contraindication—History of hypersensitivity to tetracycline.

Warning—If renal impairment exists, even usual doses may lead to liver toxicity. Under such conditions, lower than usual doses are indicated and if therapy is prolonged, tetracycline serum level determination may be advisable. Hypersensitive individuals may develop a photodynamic reaction to natural or artificial sunlight during use. Individuals with a history of photosensitivity reactions should avoid direct exposure while under treatment and treatment should be discontinued at first evidence of skin discomfort.

Precautions—Some individuals may experience drowsiness, anorexia, and slight gastric distress. If excessive drowsiness occurs, it may be necessary to increase the interval between doses. Persons on full dosage should not operate any vehicle. Use may result in overgrowth of nonsusceptible organisms. If infections appear during therapy, appropriate measures should be taken. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Infections caused by beta-hemolytic streptococci should be treated for at least 10 full days to help prevent rheumatic fever or acute glomerulonephritis. Use of tetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect has been observed in usual short treatment courses.

Average adult dosage: 2 tablets four times daily, given at least one hour before, or two hours after meals.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

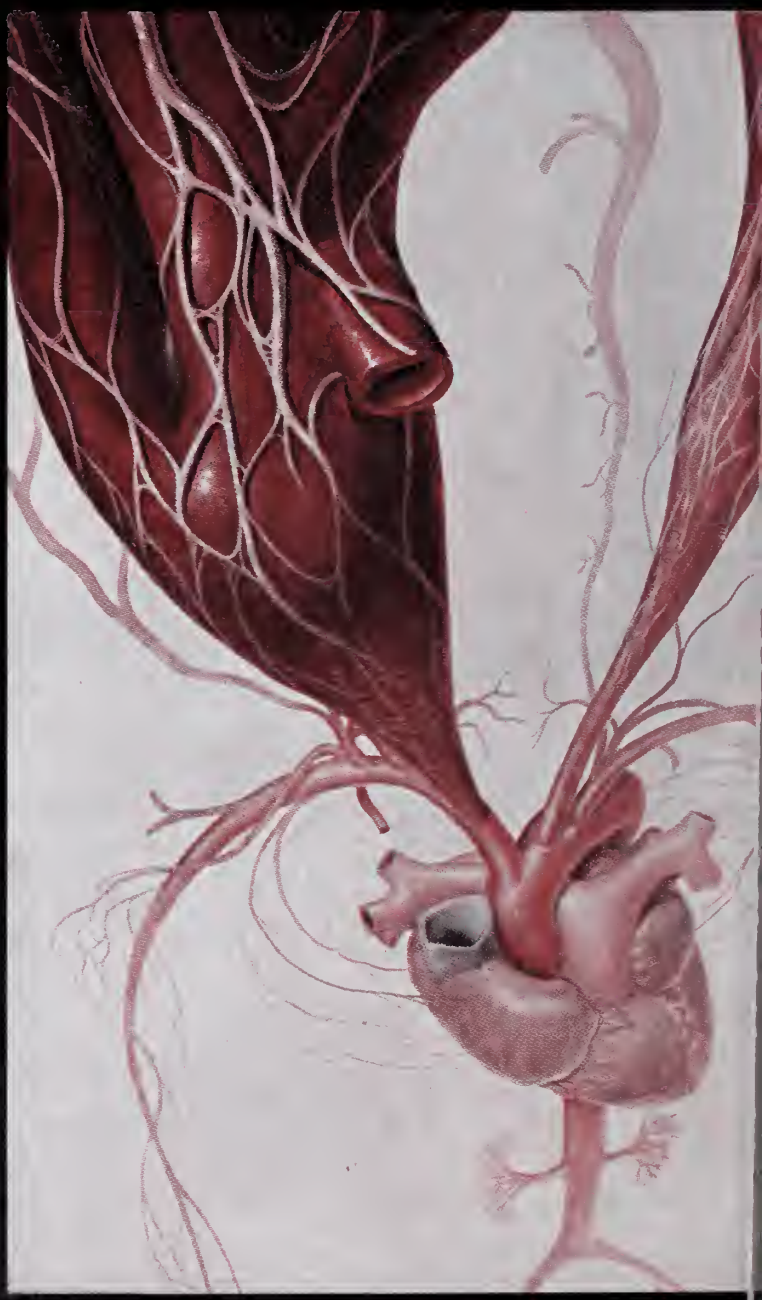
608-6-3393

Lederle

A Key Site of Action of the Protoveratrine A in Salutensin

"The main function of the carotid sinus is regulation of the blood pressure...."[1]

The veratrum component of Salutensin acts here (and in the myocardium), initiating "...a reflex fall in blood pressure through a generalized vasodilation and fall in heart rate."[2]



SCHWENK

This is a logical Blood Pressure Regulator

BECAUSE IT ENHANCES THE BODY'S OWN MECHANISMS FOR REDUCING BLOOD PRESSURE

In mild to moderate hypertension:

Salutensin enhances the body's own mechanisms for lowering blood pressure. The veratrum component of Salutensin acts on the carotid sinus and myocardial receptors, initiating "...a reflex fall in blood pressure through a generalized vasodilation and fall in heart rate."[2] To achieve this reflex modification of hypertension, Salutensin utilizes protoveratrine A. In addition, to facilitate and maintain blood pressure reduction, Salutensin incorporates reserpine and a highly effective thiazide. In general, side effects have been reported infrequently but may include those listed in the therapeutic summary.

Simple dosage—low-cost therapy: Many patients on Salutensin respond to 1 tablet *b.i.d.* Long-term economy is assured, since dosage can frequently be lowered after initial control is established.

Available: Prescription-size bottles of 60 tablets.

References: 1. Editorial: JAMA *191*:592 (Feb. 15) 1965. 2. Meilman, E., in Moyer, J.H.: Hypertension, Philadelphia, W.B. Saunders Company, 1959, p. 395.

BRISTOL THERAPEUTIC SUMMARY
For complete information consult Official Package Circular.
Indications: Essential hypertension.
Warnings: Small-bowel lesions (obstruction, hemorrhage, perforation) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs.
Contraindications: Salutensin is contraindicated in severe depression.
Precautions: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss, which may cause digitalis intoxication, responds to potassium-rich foods, potassium chloride or, if necessary, stopping therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy two weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution with patients with peptic ulcers or renal insufficiency (if severe, Salutensin is contraindicated).
Side Effects: Hydroflumethiazide: Purpura plus or minus thrombocytopenia, hyperuricemia, leukopenia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. *Reserpine:* Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth and, with overdosage, agitation, insomnia and nightmares. *Protoveratrine A:* Nausea, vomiting, cardiac arrhythmia, prostration, excessive hypotension and bradycardia. (Treat bradycardia with atropine and hypotension with vasopressors.)
Usual Dose: 1 tablet *b.i.d.*

BRISTOL LABORATORIES
Division of Bristol-Myers Co.
Syracuse, New York

Salutensin®

Each tablet contains: protoveratrine A, 0.2 mg.; hydroflumethiazide, 50 mg.; reserpine, 0.125 mg.

When uncontrolled diarrhea brings a call for help



When the diarrhea sufferer has run the gamut of home remedies without success, pleasant-tasting CREMOMYCIN can answer the call for help. It can be counted on to consolidate fluid stools, soothe intestinal inflammation, inhibit enteric pathogens, and detoxify putrefactive materials — usually within a few hours.

CREMOMYCIN combines the bacteriostatic agents, succinylsulfathiazole and neomycin, with the adsorbent and protective demulcents, kaolin and pectin, for comprehensive control of diarrhea.

INDICATIONS: Diarrhea.

CONTRAINDICATIONS: Do not use in intestinal obstruction, extensive ulceration of bowel, or diverticulosis; in hypersensitivity to sulfonamides or neomycin; in pregnancy at term, in premature infants, or during first week of life in the newborn.

WARNINGS: Use only after critical appraisal in patients with hepatic or renal damage, urinary obstruction, or blood dyscrasias. Fatal hypersensitivity reactions and blood dyscrasias reported with use of sulfonamides. Consider periodic blood counts, hepatic and renal function tests during intermittent or chronic use.

PRECAUTIONS: Succinylsulfathiazole: Use with caution if there is history of significant allergies and/or asthma. Continued use requires supplementary vitamins B_1 and K. *Neomycin:* Watch for

your ℞ for Cremomycin can provide relief



curare-like neuromuscular block during anesthesia if neomycin is used preoperatively in large doses when renal function is poor; watch for overgrowth of nonsusceptible organisms. Consider possibility of ototoxicity and nephrotoxicity with prolonged high dosage.

SIDE EFFECTS: As with all sulfonamides: Headache, malaise, anorexia, G.I. symptoms, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, rash, conjunctival and scleral injection, petechiae, purpura, hematuria, and crystalluria have been noted. Reduced fecal output of thiamine and decreased synthesis of vitamin K have been reported. *Neomycin:* Nausea, loose stools.

Before prescribing or administering, read package circular with product or available on request.

promptly relieves diarrheal distress

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Composition: Each 30 cc. contains neomycin sulfate 300 mg. (equivalent to 210 mg. of neomycin base), succinylsulfathiazole 3.0 Gm., colloidal kaolin 3.0 Gm., pectin 0.27 Gm.

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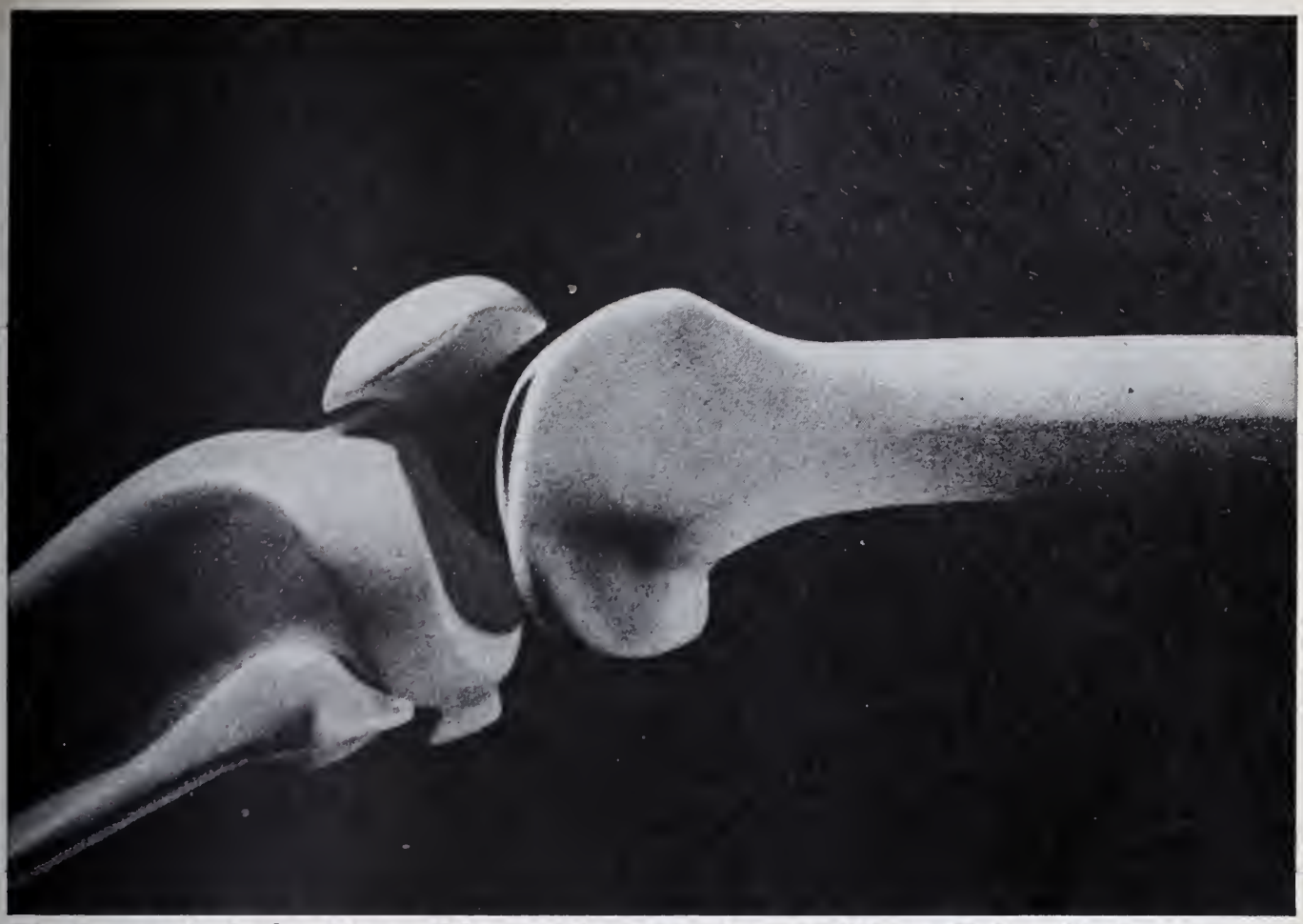
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homatropine methylbromide, 1.25 mg.

Usually works within 3 to 4 days in osteoarthritis

The trial period need not exceed 1 week. In contrast, the recommended trial period for indomethacin is *at least 1 month.*

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Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. Because of the increased possibility of toxic reactions, the drug should be used with greater care in the elderly and should not be given when the patient is senile or when other potent chemotherapeutic agents are given concurrently. Large doses of Butazolidin alka are contraindicated in patients with glaucoma.

Warning
If coumarin-type anticoagulants are given simultaneously, the physician should watch for excessive increase in prothrombin time.

Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Patients receiving such concomitant therapy should be carefully observed for this effect.

Use with caution in the first trimester of pregnancy.

Precautions
Before prescribing, the physician should obtain a detailed history and perform a complete physical and laboratory examination, including a blood count. The patient should be kept under close supervision and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools. Regular blood counts should be made to guard against blood dyscrasias.

Adverse Reactions
The most common adverse reactions are nausea, edema and drug rash. Moderately lowered red cell count may sometimes occur due to hemodilution. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, exfoliative dermatitis, Stevens-Johnson syndrome or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vertigo or languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia are also possible side effects.

Confusional states, hyperglycemia, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hepatitis, jaundice and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently.

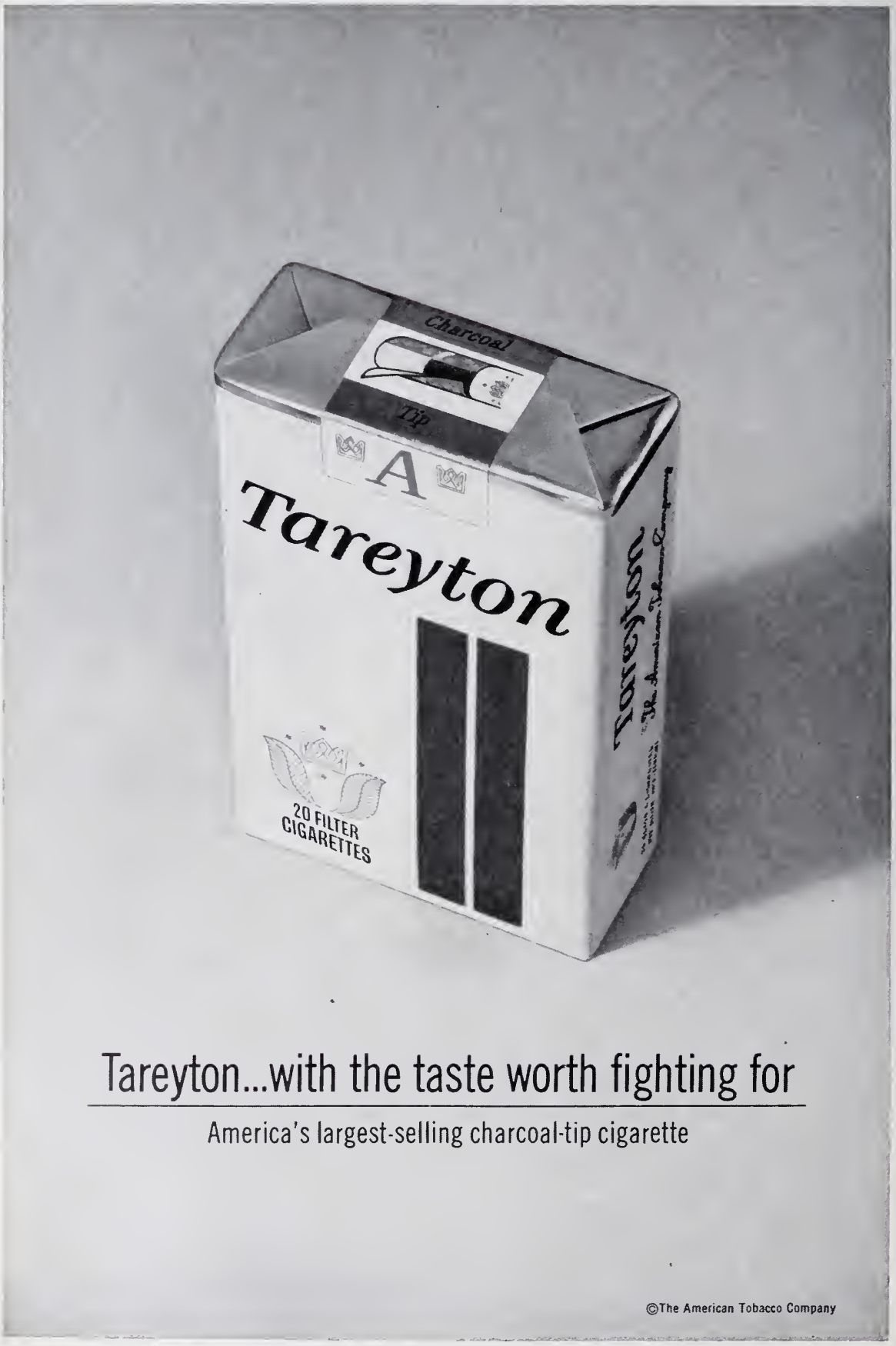
Dosage
The initial daily dosage in adults is 300-600 mg. daily in divided doses. In most instances, 400 mg. daily is sufficient. When improvement occurs, dosage should be decreased to the minimum effective level: this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

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In sinusitis, colds, or U.R.I., Dimetapp lets congested patients breathe easy again. Each Extentab brings welcome relief all day or all night, usually without drowsiness or overstimulation. Its key to success? The Dimetapp formula—Dimetane (brompheniramine maleate), a potent antihistamine reported in one study to have elicited side effects as few as the placebo,* teamed with decongestants phenylephrine and phenylpropanolamine—in a dependable 10- to 12-hour form.

*Schiller, I. W., and Lowell, F. C.: New England J. Med. 261:478, 1959.

Contraindications: Patients hypersensitive to antihistamines. Not recommended for use during pregnancy.

Precautions: Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.

Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability, or excitement may be encountered.

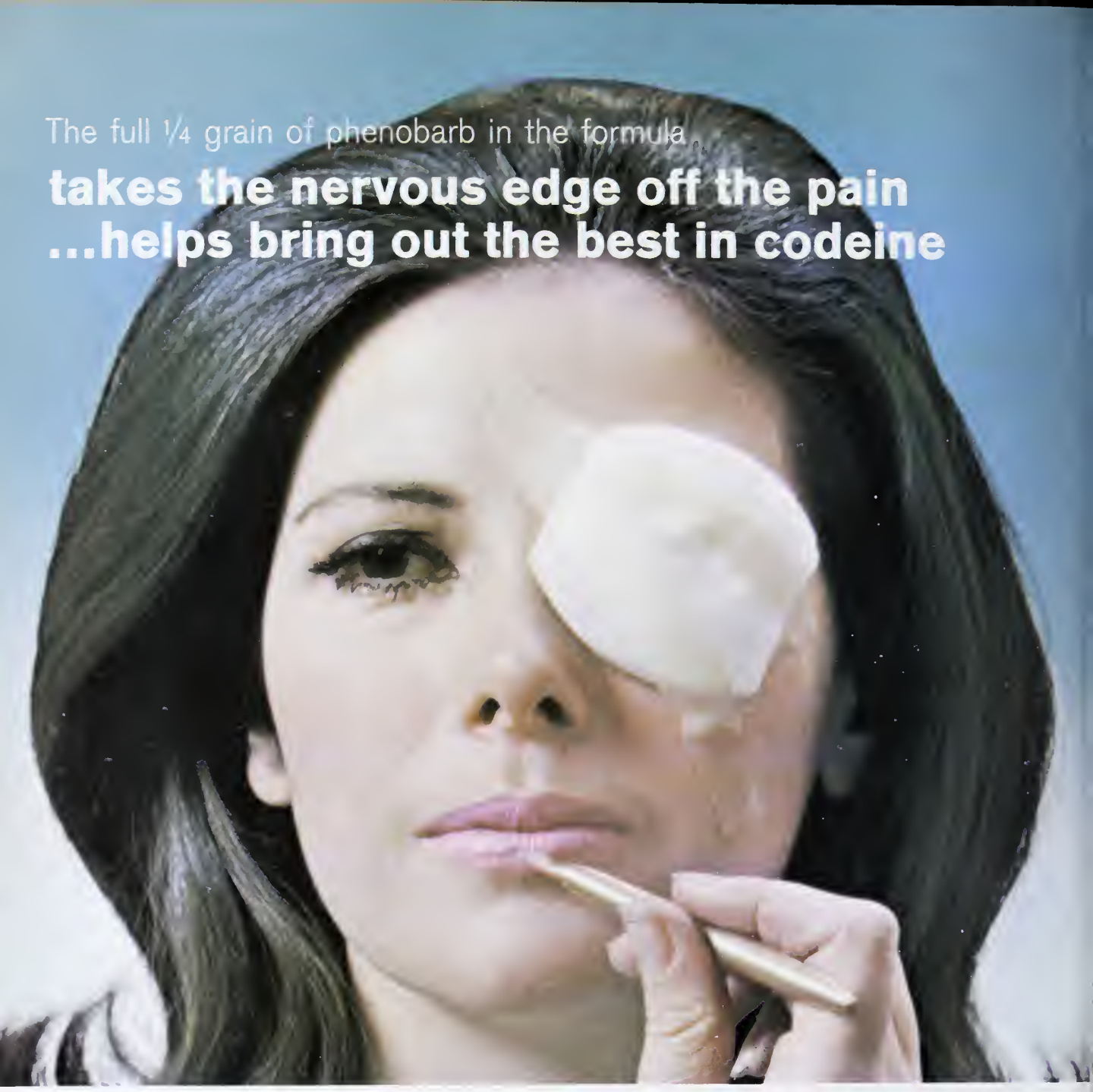
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Side Effects: Side effects are uncommon—nausea, constipation, and drowsiness have been reported.

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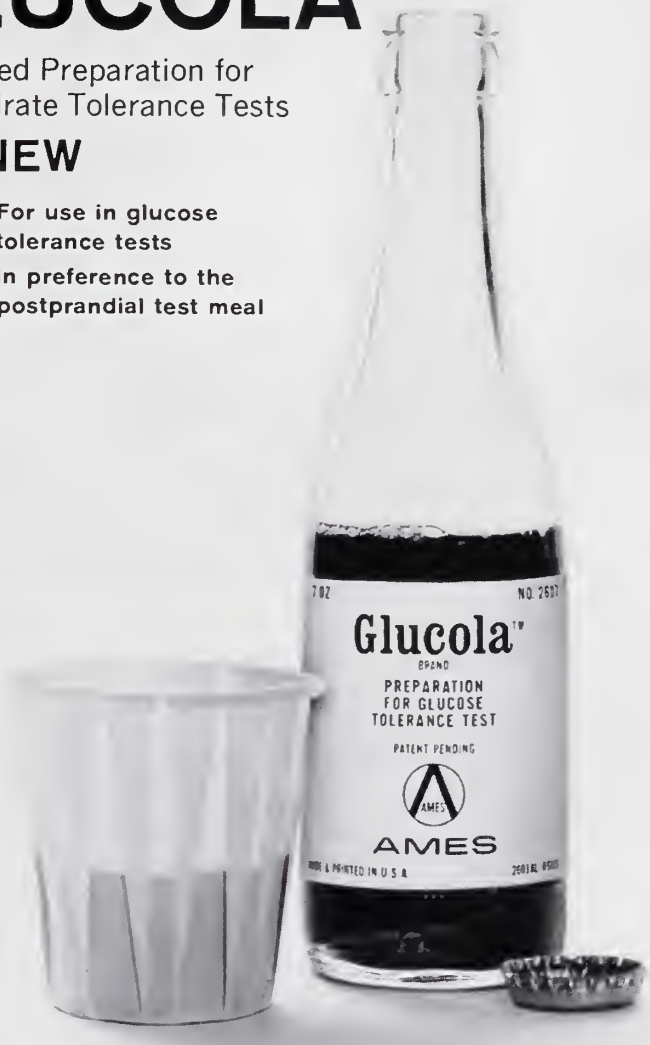
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Precautions: In elderly and debilitated and in children over five, limit dosage to smallest effective amount, increasing gradually as needed and tolerated. In general, concomitant use with other psychotropics is not recommended. Paradoxical reactions have been reported in psychiatric patients and hyperactive aggressive children. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically. Observe usual precautions in presence of impaired renal or hepatic function, impending depression and suicidal tendencies.

Adverse reactions: Drowsiness, ataxia and confusion may occur, especially in elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. Syncope occurs rarely. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis, jaundice and hepatic dysfunction) may develop occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy. Individual maintenance dosages should be determined.

Dosage: *Oral*—Adults: Mild to moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. Geriatric patients: 5 mg b.i.d. to q.i.d.

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DECEMBER, 1966

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

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References: (1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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In sinusitis, colds, or U.R.I., Dimetapp lets congested patients breathe easy again. Each Extentab brings welcome relief all day or all night, usually without drowsiness or over-stimulation. Its key to success? The Dimetapp formula—Dimetane (brompheniramine maleate), a potent antihistamine reported in one study to have elicited side effects as few as the placebo,* teamed with decongestants phenylephrine and phenylpropanolamine—in a dependable 10- to 12-hour form.

*Schiller, I. W., and Lowell, F. C.: New England J. Med. 261:478, 1959.

Contraindications: Patients hypersensitive to antihistamines. Not recommended for use during pregnancy.

Precautions: Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.

Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability, or excitement may be encountered.

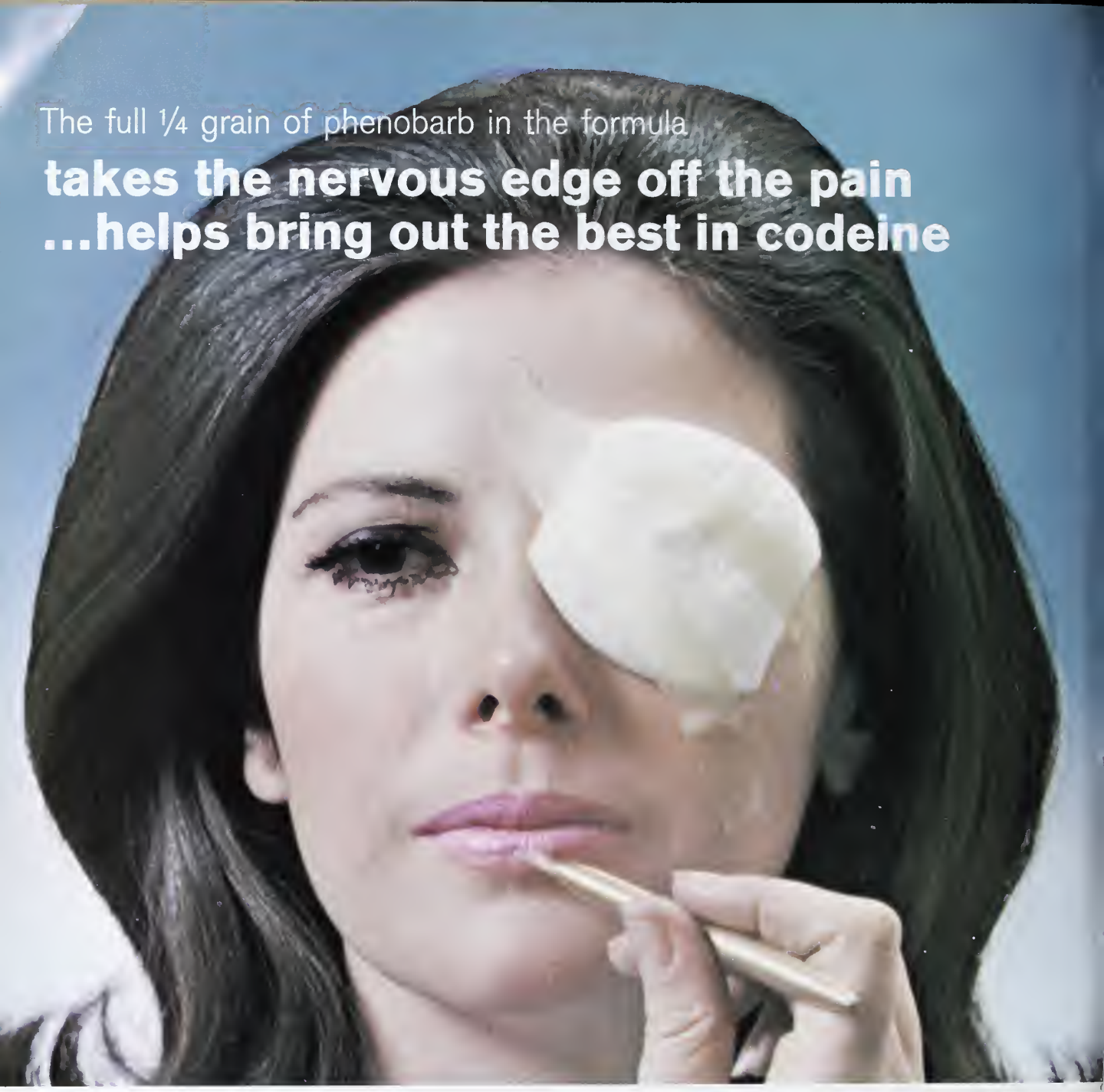
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Supplied: Bottles of 100 and 500.

Also available: Dimetapp® Elixir for conventional *t.i.d.* or *q.i.d.* dosage. See package insert for further details.

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the only leading compound analgesic that calms instead of caffeinates

Each capsule contains:

Phenobarbital (¼ gr.) ..... 16.2 mg.
(Warning: may be habit forming)
Aspirin (2½ gr.) .....162.0 mg.
Phenacetin (3 gr.) .....194.0 mg.
Hyoscyamine sulfate .....0.031 mg.
Codeine phosphate.....¼ gr. (No. 2), ½ gr. (No. 3), 1 gr. (No. 4)
(Warning: may be habit forming)

Contraindications: Hypersensitivity to any ingredient.

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Side Effects: Side effects are uncommon—nausea, constipation, and drowsiness have been reported.

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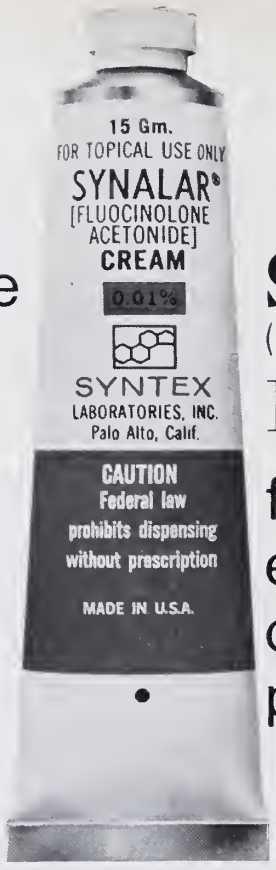
Richard Trimble
Richmond, Virginia
270-1228



Richard Voigtsberger
Virginia Beach, Virginia
340-4031

SYNTEX
LABORATORIES INC PALO ALTO, CALIF

new small size



Synalar® 0.01%
(fluocinolone acetonide) **cream**
15 Gm.

for even greater economy in office or hospital practice

the superiority topical with the

Now you can prescribe as little or as much Synalar Cream 0.01% as is needed for a particular therapeutic problem in a size that permits the greatest economy for your patient. The new 15 Gm. tube, for example, is best suited for short-term therapy and for small sites. For more extensive body areas prescribe the 45 Gm. tube—a size that's also ideal for your treatment table. And the 120 Gm. jar is most economical for hospital use. Thus, with Synalar Cream 0.01%, you have the superiority of a modern topical corticosteroid shown to be more effective than 1% hydrocortisone[1-3] plus the economy that makes therapy practical for use in more dermatologic conditions, in long-term maintenance, with occlusive dressings in resistant cases, and in extensive area involvement.

Contraindications: Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of its components. **Precautions:** 1. *General*—Synalar Cream 0.01% is virtually nonsensitizing and nonirritating. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. 2. *Occlusive dressing method*—With occlusion of extensive areas, systemic absorption of the corticosteroid may occur, and suitable precautions should be taken. Occasional patients may show contact sensitivity to a particular dressing material or adhesive. Miliaria, folliculitis, or pyodermas have been seen infrequently with the use of this technique. The development of infection requires appropriate antibacterial therapy and discontinuation of the occlusive dressing method. Local atrophy and striae have been reported with protracted occlusive dressing therapy. While lesion relapses can be expected to occur in many psoriatic patients, remissions may persist for several weeks to several months in favorable cases. The patient whose psoriasis is in an active stage, with recent appearance of new lesions, may not be a good candidate and may show early relapse. Some plastic films may be flammable, and due care should be exercised in their use. Similarly, caution should be employed when such films are used on or left near children to avoid the possibility of accidental suffocation. **Side Effects:** Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. **References:** 1. Cahn, M. M., and Levy, E. J.: J New Drugs 1:262 (Nov.-Dec.) 1961. 2. Meenan, F. O.: J Irish Med Ass 52:75 (Mar.) 1963. 3. Robinson, H. M., Jr., Raskin, J., and Dunseath W. J. R.: Southern Med J 56:797 (Jul.) 1963.

of a modern corticosteroid economy of hydrocortisone

Now...a choice of 3 economical sizes



120 Gm. jar 15 Gm. tube 45 Gm. tube

fluocinolone acetonide — an original steroid from

SYNTEX

LABORATORIES INC., PALO ALTO, CALIF.

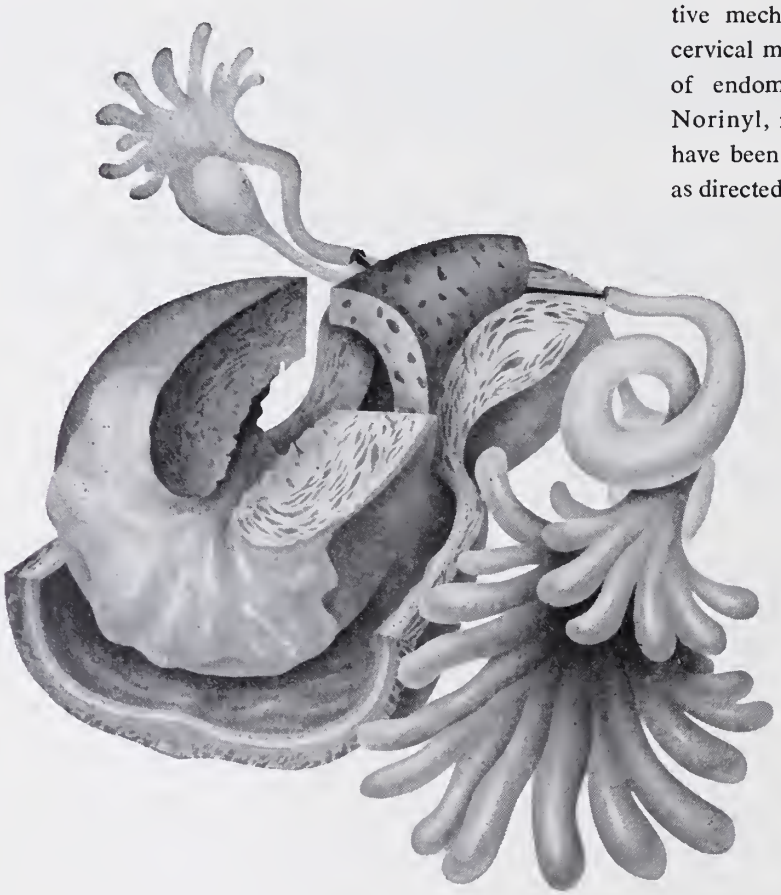
Norinyl® tablets
(norethindrone 2 mg. & mestranol 0.1 mg.)

for multiple contraceptive action that has produced a record of unexcelled effectiveness

inhibition of ovulation by means of 2 time-proved hormonal agents

production of a cervical mucus hostile to sperm motility and vitality

creation of an endometrium unreceptive to egg implantation



no unplanned pregnancies

Norinyl provides multiple action for maximum assurance of success. It does not depend on ovulation inhibition alone for contraceptive effectiveness. The mechanism of action of combined hormonal therapy results in ovulation inhibition reinforced by other protective mechanisms, including a hostile cervical mucus[1-13] and an acceleration of endometrial changes.[1-3,7-16] With Norinyl, no unplanned pregnancies have been reported to date when used as directed.

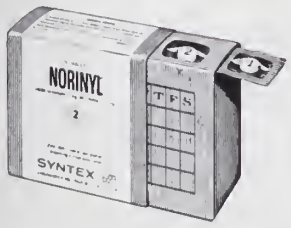
plus important supportive benefits that help her through those critical early months of oral contraception

low incidence of side effects

Low incidence of BTB and spotting, nausea and amenorrhea tends to minimize side effect problems and increases patient cooperation.

no confusion about dosage

An unbreakable "confusionproof" package makes it easy to adhere to prescribed dosage schedule: individually sealed tablets numbered from 1 through 20 *plus* monthly calendar record enables patient to double-check dosage intake by day and corresponding tablet number.



Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.

Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs. JAMA 187 664 (Feb 29) 1964. 2. Bryans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Oosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, O. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Oosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

norethindrone—an original steroid from

SYNTEX

LABORATORIES INC., PALO ALTO, CALIF.

Norinyl tablets

(norethindrone 2 mg. ć mestranol 0.1 mg.)

for multiple contraceptive action

SQUIBB NOTES ON THERAPY



Breast-feeding and the "modern mother"

Despite a mild resurgence of interest in the importance of breast-feeding a few years ago, many women today do not choose to nurse their young. This is for a variety of reasons—social, economic, cultural and sometimes medical. In such cases the physician's task is to find the most suitable means of preventing lactation and easing the pain of breast engorgement.

The means of therapy

The value of hormone therapy for this indication is of course well established. Both androgen and estrogen are known to inhibit the production and secretion of the lactogenic hormone by the anterior pituitary. As estrogen levels decline sharply at parturition, lactogenesis is established. When androgen and estrogen are administered to the patient before the release of the lactogenic hormone lactation and breast engorgement are usually prevented.

The time of therapy

The time of administration of this combined medication is crucial; it must be given early enough to suppress the pituitary prolactin and last long enough to permit physiologic readjustment during the puerperium. Excellent results are most often seen when therapy is administered before the onset of the second stage of labor.

However, factors other than effectiveness must also be considered. The agent selected should not interfere in any way with parturition, subsequent uterine involution and the restoration of normal ovarian cyclic function. Furthermore, it should not cause rebound breast engorgement or other manifestations of hormonal imbalance.

A balanced formulation

Providing single-dose therapy for the prevention of lactation and breast engorgement, Deladumone OB is a potent androgen-estrogen combination with a prolonged action. The optimal balance of androgenic and estrogenic hormones achieved in this preparation minimizes the disadvantages inherent in single hormone therapy, such as rebound breast engorgement. Involution of the uterus and resumption of menstrual cycles are not affected.

As reported in a recent published study (Roser, D. M.: Obstet. & Gynec. *27*:73, 1966), Deladumone OB provided good suppression of breast engorgement in 95.3% and suppression of lactation in 81.1% of 86 obstetrical patients. These results are in general agreement with those of many earlier investigations; in several studies this injectable androgen-estrogen combination proved to be superior to oral medication.

Dosage:

As a single injection of 2 cc. before the onset of the second stage of labor.

Contraindications:

Established or suspected mammary cancer or genital malignancy.

Precautions and Side Effects:

Certain patients may be unusually responsive to either estrogenic or androgenic therapy. In such individuals virilization, uterine bleeding or mastodynia may occur.

Supply:

Deladumone OB, providing 180 mg. testosterone enanthate and 8 mg. estradiol valerate per cc., is available in 2 cc. Unimatic® disposable syringes and in 2 cc. vials. Both preparations are dissolved in sesame oil, with 2% benzyl alcohol as a preservative. *Before use, consult product literature for full prescribing information.*

Deladumone® OB

Squibb Testosterone Enanthate (180 mg./cc.) and Estradiol Valerate (8 mg./cc.)

Single-dose injection for lactation inhibition

SQUIBB *'The Priceless Ingredient' of every product is the honor and integrity of its maker.*



Now, now, Mrs. Forsythe, we've never lost a cold patient yet.

When she's experiencing acute discomfort from cold symptoms, it's small wonder the patient becomes distressed about her condition.

She will breathe easier when you prescribe Novahistine LP. Novahistine LP is a long-acting decongestant that helps restore normal mucus secretion and ciliary activity—physiologic mechanisms which prevent infection of the respiratory tract. A dose of two tablets taken in the morning and repeated in the evening will usually keep air passages clear for 24 hours.

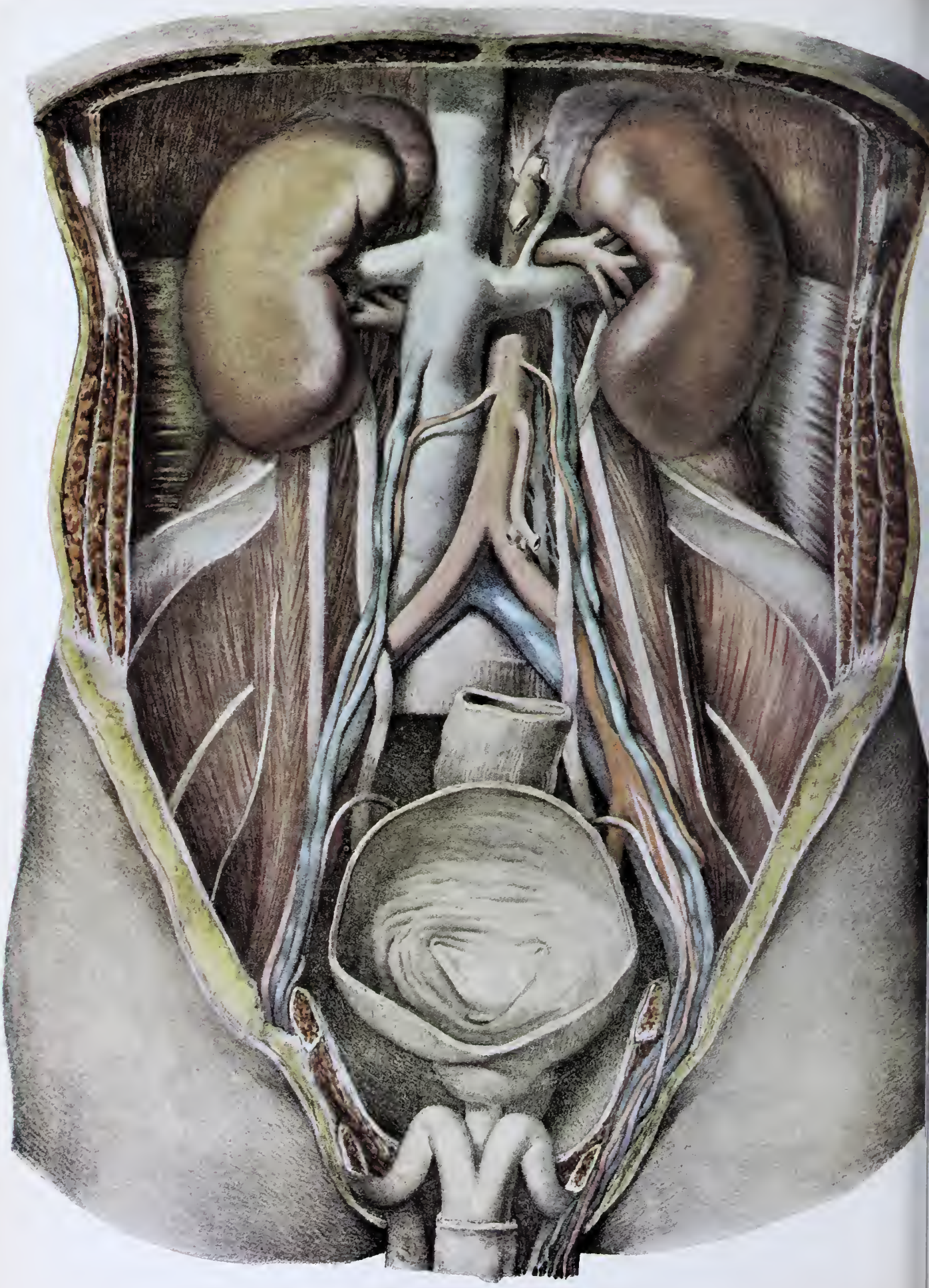
Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution patients who operate machinery or motor vehicles that drowsiness may result.

Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

PITMAN-MOORE Division of The Dow Chemical Company, Indianapolis DOW

NOVAHISTINE® LP

For relief of nasal congestion.



Wide-range bactericidal action for genitourinary infections

NEW OMNIPEN® (AMPICILLIN) WYETH

A penicillin that exhibits effectiveness within the gram-positive spectrum of penicillin G* and the gram-negative spectrum of chloramphenicol and the tetracyclines.*

Active at foci of infections—kidney, ureter, bladder or urethra.

Effective against many gram-negative and gram-positive pathogens—thus may be valuable not only in genitourinary but also in common respiratory and gastrointestinal infections.

Normally produces high and persistent levels in blood and high concentrations in bile and urine.

Significant inherent stability.

**Exclusive of penicillinase-producing bacteria.*

Indications: Urinary tract infections, especially those caused by *E. coli*, *Proteus mirabilis*, and *Streptococcus faecalis* and *viridans;* respiratory infections caused by *H. influenzae*, pneumococci, streptococci, and nonpenicillinase-producing staphylococci; and gastrointestinal infections caused by *Shigella* and *Salmonella*, including *Sal. typhosa.*



Contraindications: Hypersensitivity to penicillin; infections due to penicillinase-producing staphylococci and other penicillinase-producing bacteria.

Precautions: If allergic reaction occurs, discontinue ampicillin and administer epinephrine, corticosteroids, antihistamines and/or pressor amines as indicated. Transient moderate elevation of SGOT values of undetermined significance was noted in a few infants. Liver and kidney function as well as hematopoietic tests are advisable during therapy, particularly in infants. As with other antibiotics, precautions should be taken against gastrointestinal superinfection. Safety for use in pregnancy has not been established.

Adverse Reactions: Occasional mild side effects as urticaria, skin rash, pruritus, diarrhea, nausea and vomiting. There have been no reports of blood dyscrasias, liver or kidney damage. Anaphylaxis has been reported.

Composition: Capsules, 250 mg.

American Hospital Formulary Service Category No. 8:12.16.

Wyeth Laboratories Philadelphia, Pa.

Wyeth® SERVICE TO MEDICINE



"Yes, Doctor, the pain is gone."

■ Despite introduction of synthetic substitutes, efficacy of 'Empirin' Compound with Codeine remains unchallenged.

'Empirin'® Compound with Codeine Phosphate gr. ½ No. 3

Each tablet contains: Codeine Phosphate gr. ½ (Warning—May be habit forming), Phenacetin gr. 2½, Aspirin gr. 3½, Caffeine gr. ½.

Keeps the Promise of Pain Relief

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.



brings peace to the hyperactive colon

CANTIL®
(mepenzolate bromide)

helps restore normal motility and tone

"In 40 of 44 cases of irritable or spastic colon, Cantil [mepenzolate bromide] or Cantil with Phenobarbital reduced or abolished abdominal pain, diarrhea and distention and promoted restoration of normal bowel function . . . Cantil [mepenzolate bromide] proved to be singularly free of anticholinergic side-effects . . . Urinary retention, noted in two cases was eliminated in one by reducing dosage."[1]

IN BRIEF: One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth or blurring of vision may occur but it is usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy—withhold in glaucoma. Cantil with Phenobarbital is contraindicated in patients sensitive to phenobarbital.

Supplied: CANTIL (mepenzolate bromide)—25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL—containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

1. Riese, J. A.: Amer. J. Gastroent. 28:541 (Nov.) 1957

LAKESIDE LABORATORIES, INC. Milwaukee, Wisconsin 53201

LAKESIDE

PRODUCTS
FOR PATIENTS
YOU SEE
EVERY DAY

DACTILASE®

Each tablet contains:
Dactil® (piperidolate hydrochloride), 50 mg.;
Standardized cellulolytic* enzyme, 2 mg.;
Standardized amylolytic enzyme, 15 mg.;
Standardized proteolytic enzyme, 10 mg.;
Pancreatin 3X** (source of lipolytic activity), 100 mg.; Taurocholic acid, 15 mg.

*Need in human nutrition not established.
**As acid resistant granules equivalent in activity to 300 mg. Pancreatin N.F.



In chronic or acute indigestion, fluttery, gassy stomachs obtain prompt, gratifying relief through the antispasmodic, surface anesthetic and enzymatic activity of Dactilase. Dactilase decreases hypermotility and pain and reduces the production of gas. Dactilase does not induce stasis, but helps restore normal tone. It has little or no effect on enzyme secretions, but *adds* enzymes, thus contributing to the digestive efficiency of the patient.

Side Effects and Contraindications: Dactilase is almost entirely free of side effects. However, it should be withheld in glaucoma and in jaundice due to complete biliary obstruction.

Administration and Dosage: One tablet with, or immediately following, each meal. Tablets should be swallowed whole.

Supplied: Bottles of 60 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

For cold hands and feet, nothing beats hot stoves—but they *are* awkward to carry around. Now Gerilid, in good-tasting take-along chewable tablets can provide rapid vasodilation of peripheral circulation, bringing real warmth to the extremities and decreasing sensitivity to sudden temperature change. Patients *like* Gerilid and *know* they are getting relief.

WARMTH
FOR COLD
HANDS AND FEET



GERILID™

Each chewable tablet contains:
nicotinic acid (niacin) 75 mg. and
aminoacetic acid (glycine) 750 mg.

Administration and Dosage: One or two chewable tablets 3 times a day before meals. If flushing is objectionable, dosage may be lowered. However, tolerance to flushing usually develops without loss of efficacy in regard to vasodilation. The recommended dosage should not be exceeded.

Side effects: Occasional lightheadedness or transient itching which may disappear with continued use. There are no known contraindications; however, caution is advised when there is a concomitant administration of a coronary vasodilator.

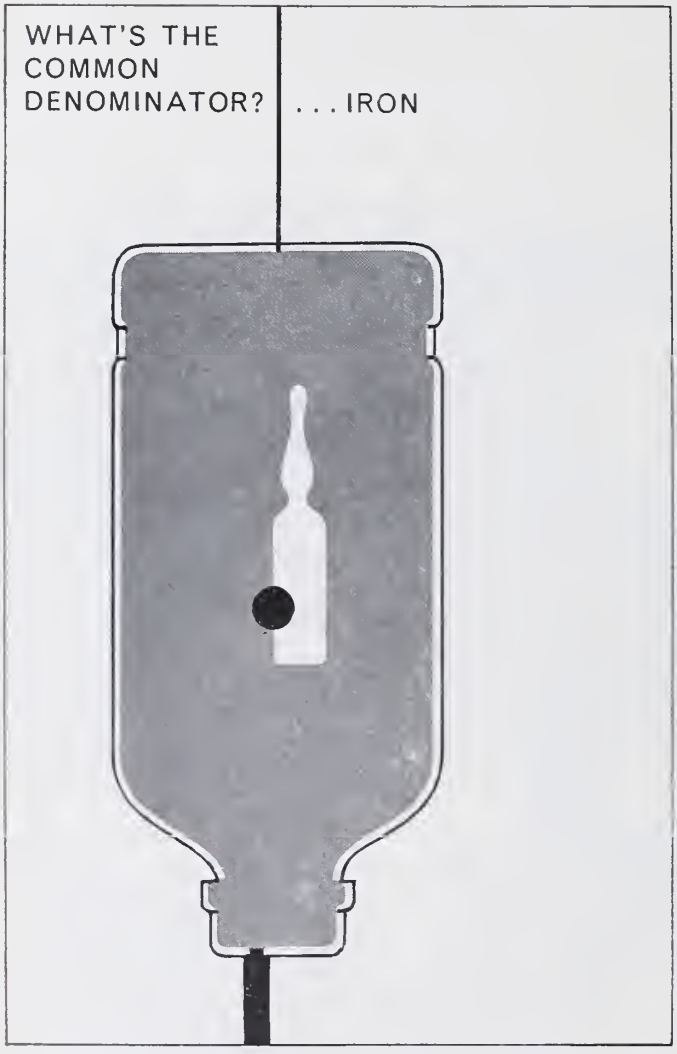
Supplied: Packages of 50 chewable tablets.

Also available in liquid form as Geriliquid®, in bottles of 8 and 16 ounces.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

In fact, there's as much iron...250 mg. ...in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood. When iron deficient patients are intolerant of oral iron...or orally administered iron proves ineffective or impractical...or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves.



IMFERON®
(iron dextran injection)

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a source of iron; infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylatoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

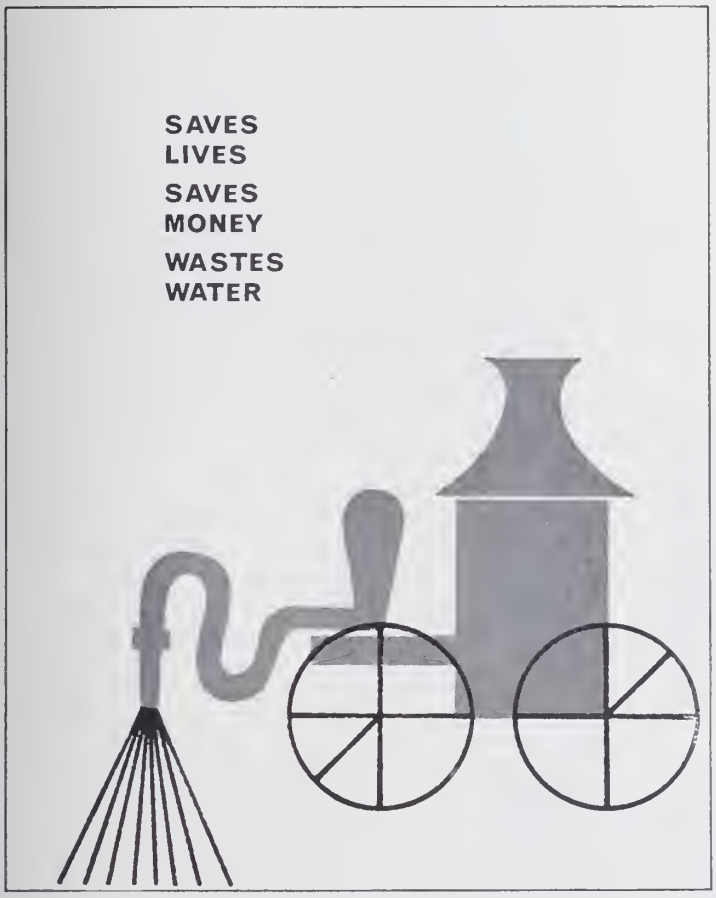
CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4; 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

METAHYDRIN (trichlormethiazide) is prescribed by physicians because it not only approximates the diuretic efficacy of parenteral meralluride injection . . . but, *it is the least expensive of all "brand-name" thiazides.* Therefore, when you prescribe METAHYDRIN (trichlormethiazide) your patients receive the thiazide diuretic that removes a little more salt and water than earlier thiazides, with relatively less loss of potassium . . . and, it's therapy they can more easily afford . . . *only pennies a day.*



METAHYDRIN®

(trichlormethiazide)

oral diuretic

Dosage: One 2 or 4 mg. tablet once or twice daily.

Precautions: As with all effective diuretics, vigorous therapy may produce electrolyte depletion. Patients with severely reduced renal function should be observed carefully since thiazides may be contraindicated. Care should be taken with patients predisposed to diabetes or gout. Patients with a tendency to potassium deficiency, as in hepatic cirrhosis or diarrheal syndromes, or those under therapy with digitalis, ACTH, or certain adrenal steroids, also should be watched carefully.

Side Effects: Nausea, flushing, constipation, skin rash, muscle cramps and gastric discomfort have occasionally been noted; rarely thrombocytopenia and bone marrow depression, photosensitivity, cholestatic jaundice, pancreatitis, perimacular edema, gout and diabetes have been caused by the administration of thiazides.

Contraindications: Complete renal shutdown; rising azotemia or development of hyperkalemia or acidosis in severe renal disease; demonstrated hypersensitivity.

How Supplied: Bottles of 100 and 1000 tablets.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE

PRODUCTS
FOR PATIENTS
YOU SEE
EVERY DAY

BRING IT DOWN
AND
KEEP IT DOWN



Metatensin lowers blood pressure and keeps it low—effectively and economically. It combines reserpine with trichlormethiazide which affords more potent saluresis with less loss of potassium than from earlier thiazides. Reserpine contributes antihypertensive effect by relieving anxiety and tension. Metatensin is well-tolerated over long periods; with its effectiveness and economy it assures antihypertensive therapy you and your patients can stay with.

METATENSIN®

Each scored tablet contains:
METAHYDRIN® (trichlormethiazide)
2 mg. or 4 mg. and
Reserpine 0.1 mg.

Usual adult dose: One tablet twice daily. **Precautions and side effects:** Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing steroids, should be observed for signs of hypokalemia. With thiazides, electrolyte depletion, diabetes, gout, granulopenia, nausea, pancreatitis, cholestatic jaundice, flushing, mild muscle cramps, constipation, photosensitivity, acute myopia, perimacular edema, paresthesias, neonatal bone marrow depression in infants of mothers who received thiazides during pregnancy, skin rash or purpura with or without thrombocytopenia, may occur. With reserpine, untoward effects may include depression, peptic ulcer and bronchial asthma. Withdraw medication at least 7 days prior to electroshock therapy, 2 weeks prior to elective surgery.

Contraindications: Complete renal shutdown, rising azotemia or development of hyperkalemia or acidosis in severe renal disease.

Supplied: Metatensin tablets, 2 mg., 4 mg.—bottles of 100 and 1000.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

LAKESIDE | PRODUCTS FOR PATIENTS YOU SEE EVERY DAY

When depressed patients say:



"I can't sleep at night"



"I'm tired all day long"

NORPRAMIN®
(desipramine hydrochloride)
non-sedating · rapid-acting
ANTIDEPRESSANT

helps restore normal patterns of sleep and activity

Norpramin (desipramine hydrochloride) often reverses the signs and symptoms of depression including sleep disturbances feeling of sadness, guilt, anxiety, worthlessness and bodily complaints without physical basis. In 2-5 days most patients become more hopeful, active and less weighed down by their problems.

Norpramin (desipramine hydrochloride) has only slight sedative qualities, nevertheless sleep disturbances and restlessness are relieved as depression is lifted. If anxiety or tension develop or persist a tranquilizer may be added or dosage reduced. Side effects are usually mild, occurring in about 1 of 4 patients.

Indications: In moderate to severe depression—neurotic or psychotic. **Dosage:** Optimal results are obtained at a dosage of two 25 mg. tablets t.i.d. (150 mg./day). **Contraindications and Precautions:** Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease and epilepsy. Should not be given within two weeks of an MAO inhibitor. Safety in human pregnancy has not been established. **Adverse Effects:** Usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste", sensory illusion, tinnitus, agitation and stimulation, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, allergy, transient eosinophilia, granulopenia, altered liver function, ataxia and extrapyramidal signs. **Supplied:** Norpramin (desipramine hydrochloride) tablets of 25 mg., in bottles of 50, 500 and 1000.

PRODUCTS FOR PATIENTS YOU SEE EVERY DAY LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

In colicky infants Pediatric Piptal with Phenobarbital slows down spasm, diminishes pain and crying and improves feeding patterns. It permits sleep and rest for patient and family. The less than hypnotic amount of phenobarbital in the recommended dose affords a mild, calming action and enhances the antispasmodic action of Piptal (pipenzolate bromide). The latter drug, as reported in the medical literature, has a favorable ratio of effectiveness to side-effects which is unusual in anticholinergics and thus is particularly appropriate to pediatric use.



PEDIATRIC PIPTAL® WITH PHENOBARBITAL

each cc. contains 6 mg. phenobarbital (warning: may be habit forming); 4 mg. Piptal® (pipenzolate bromide), and 20% alcohol.

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Contraindications—Mammary or genital carcinoma should be ruled out prior to administering Ovulen. Undiagnosed vaginal bleeding is also a contraindication to Ovulen use. A history of thrombophlebitis or pulmonary embolism, or both, is a contraindication to the use of Ovulen, unless its use is judged by the physician to be necessary despite the possible risk. Ovulen should not be used in women with suspected or overt liver dysfunction or disease. Ovulen is contraindicated in pregnant and nursing women and in patients with a history of cerebrovascular accident.

Warnings—Medication should be discontinued pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. Medication should be withdrawn if examination reveals papilledema or retinovascular lesions. Since the safety of Ovulen therapy in pregnancy has not yet been established, it is recommended that, in a patient who has missed two consecutive menstrual periods, pregnancy be ruled out before oral contraceptive therapy is continued.

Precautions—Because Ovulen may aggravate a tendency toward fluid retention in some patients, it should be administered cautiously to patients with a history of renal or cardiovascular disease (including hypertension), asthma, epilepsy or migraine. Any possible influence of long-term Ovulen therapy on pituitary, adrenal cortical, ovarian, hepatic or uterine functions requires further study. Oral contraceptives also should be administered cautiously to diabetic patients since a decrease in glucose tolerance has been observed in some patients taking these drugs. Patients on Ovulen may occasionally show abnormal glucose tolerance tests, but this does not necessarily indicate the presence of diabetes. Significant increases in platelet count, prothrombin and proconvertin tests, plasma thrombotic activity and plasma proteolytic activity have been reported.

Since estrogens may affect results of serum protein bound iodine and other thyroid function tests, these tests should not be considered definitive until Ovulen therapy has been discontinued for at least sixty days. Adrenal steroid serum levels and excretion may be affected by estrogens; the Metopirone® (SU-4885) test of pituitary-adrenal function may also be depressed. Abnormalities in hepatic function tests have also been reported, including some interference with dye excretion by the liver. This interference may give rise to Bromsulphalein® retention and jaundice in susceptible individuals. Serious liver dysfunction should be ruled out before continuing Ovulen administration when abnormalities in liver function tests occur.

Patients with a history of psychic depression should be observed carefully during treatment with oral contraceptives, and such treatment should be discontinued if depression recurs to a serious degree. Pre-existing fibroids may increase in size during Ovulen therapy. Such fibroids may regress to pretreatment size after Ovulen is stopped. In the event of breakthrough bleeding the possibility of nonfunctional causes should be borne in mind. Additional means of contraception should be used during the first seven days of Ovulen administration in the first treated cycle, because early ovulation may possibly occur.

Side Actions—The following adverse reactions have been reported with Ovulen; however, a causal relationship to Ovulen administration has not been established in all of the listed complaints: headache, dizziness, depression, breast complaints, amenorrhea, chloasma, vomiting, allergy, edema, migraine, pulmonary embolism, thrombophlebitis, visual difficulties, nervousness, rash, itching, decrease in libido, tiredness, malaise, hair loss and hair growth. A small incidence of nausea, spotting and breakthrough bleeding has been reported; these complaints tend to diminish markedly or disappear after the first cycle of treatment. Some of these side actions have required discontinuance of the drug.

Dosage—One tablet daily for 20 consecutive days beginning 5 days after the onset of menstruation.

Before prescribing see Detailed Product Information, Ovulen.

An extensive list of references on Ovulen is included in the literature mailed to physicians.

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Contraindication — History of hypersensitivity to demethylchlortetracycline.

Warning — In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects — Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

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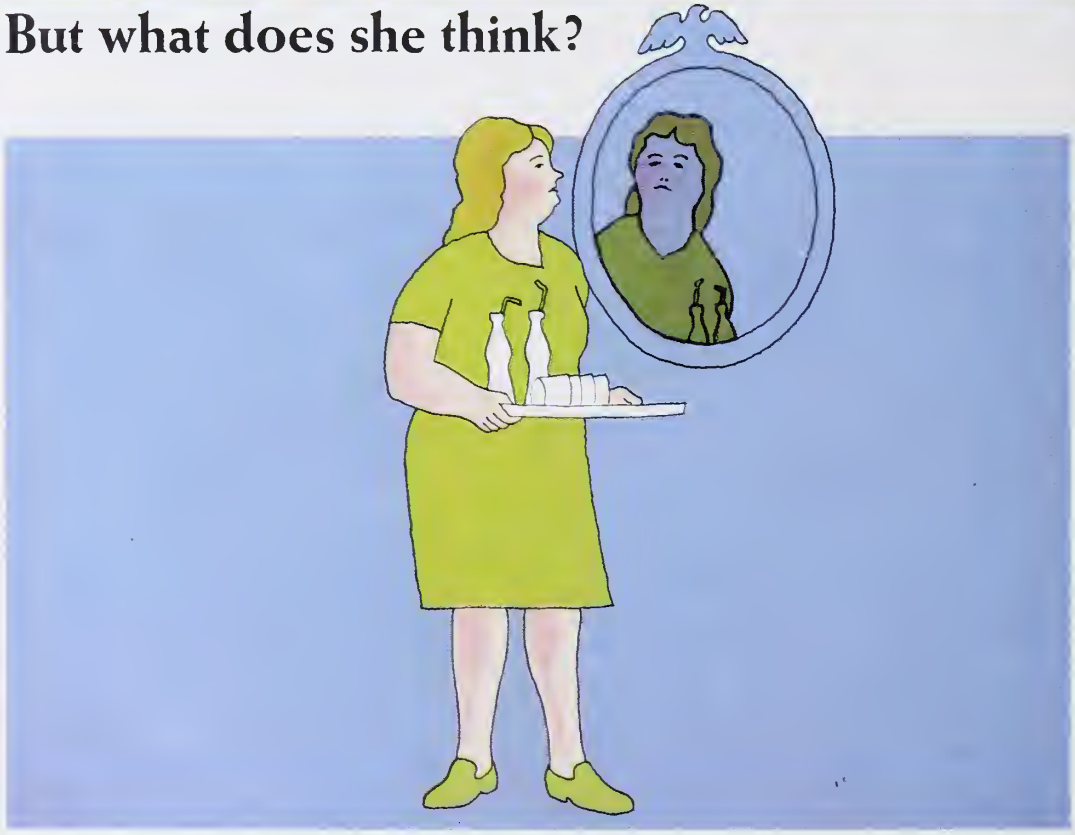
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Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

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The Virginia
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Guest Editorial . . .

The Virginia Association of Professions

THE FOLLOWING is largely quoted from a brochure explaining the Virginia Association of Professions:

"If the professional man is to maintain his proper position in our society, it would appear that he must be represented by an organization which is sufficiently large and strong enough to protect the fundamental freedoms upon which professionalism is vitally dependent.

"It is becoming increasingly apparent that the federal government on occasions is greatly influenced by organized and militant minorities.

"It is true that each of the 'learned professions' has an organization, but it is evident that in separate endeavors they do not achieve the potency necessary for their protection. The recent passage of highly controversial legislation illustrates the futility of separate and individual effort on the part of a single profession. If we join together with dedication and unity of purpose, we can and will become a significant influence in our state, and hopefully, in our nation.

"Although important, the foregoing is not the only purpose and aim of VAP. Quoting excerpts from the articles of incorporation, other purposes include:

"1. To promote a better understanding between members of the several professions, and a free interchange of opinion and information on subjects of mutual professional interest.

"2. To foster ever higher standards of professional education, ethics and conduct.

"3. To encourage advancement of professional ideals and professional welfare.

"4. To promote adequate preparation for professional life for those studying to enter the professions, and to provide continuing education for those already practicing the professions.

"5. To assist those persons newly entering professional practice in meeting the problems of their respective professions.

"6. To stimulate and foster leadership by the professions in public surveys, activities on community, state and national levels, and to protect the public, as well as the professions, against the encroachments on professional practice by those not qualified.

"7. To sponsor, work for and do all other proper things for the advancement and protection of the legitimate interests of the members of the several professions.

"Virginia Association of Professions was chartered on April 8, 1965, after more than a year's study by representatives from each of the five

professional societies (there are now seven) now eligible for membership. Similar associations exist in Michigan, Illinois, New York, North Carolina, and Texas and are being formed in other states. (A national organization will be formed when some 50% of the states have such associations.)

"State professional organizations now eligible for membership are: the Virginia Chapter, American Institute of Architects, The Medical Society of Virginia, The Virginia Bar Association, The Virginia State Dental Association, and the Virginia Society of Professional Engineers. (Recently, the Virginia Society of Certified Public Accountants and the Virginia Veterinary Society were admitted.)

"Other State professional organizations have made application for membership. They may be elected to State organization membership after they have been declared eligible to membership by the vote of not less than three-fourths of the entire board of directors.

"Professional men who are voting members in good standing of the listed organizations and such other State professional organizations as are elected to State Organization Membership are eligible to apply for membership in VAP.

"It is intended that the activities of the Association will be entirely financed by the dues of its individual members which are $10.00 per calendar year.

"The VAP is not organized for the pecuniary profits of its directors, officers, or members. It may not issue stock or declare dividends, and no part of its net income shall inure to the benefit of any director, officer, or member. Any balance of money or assets remaining after full payment of all obligations shall be devoted solely to the charitable, educational, and benevolent purposes of the Association."

After an initial mailing from The Medical Society of Virginia last year, some seventy physicians around the State have become members. There are 3,300 members of The Medical Society of Virginia, giving us the magnificent percentage of 2.2 in VAP. While it may be true that a number of us missed the initial mailing or were not interested for one reason or another, this is indeed small representation. Efforts are being made to get brochures, applications, etc., into hospital staff meetings, and medical society meetings to make physicians around the State aware of this organization. There is more federal and state legislation pending. A national organization of professions seems necessary to see that future legislation is properly handled and does not look upon professionalism as some kind of public utility. It would appear that such a highly ethical, law abiding, and well motivated association would be worthy of our attention. For physicians, who have ranted, railed, and beat their breasts because the American Medical Association had failed to lessen the impact of federal legislation on their profession, it seems that VAP provides an opportunity to "put up or shut up".

Application for membership, accompanied by the annual dues, may be made to the Virginia Association of Professions, P.O. Box 5190, Richmond, Virginia 23220.

Maurice S. Vitsky, M.D.

Presidential Address

ALEXANDER McCAUSLAND, M.D.
Roanoke, Virginia

WHEN I STOOD before you in Richmond 13 months ago to accept the very great honor which you bestowed on me, I pledged to you my constant best efforts. It is my earnest hope that my efforts have been in keeping with the fine tradition of the physicians of Virginia. From you I sought guidance, advice, and enduring support. I can assure you that I have had all these in full measure and for this I shall be eternally grateful.

Since that sunny October Tuesday afternoon in Richmond, much has happened to our profession. That which we were trying to prevent has now become a reality. The terms of the defeat which we sustained are still being exacted through directives and guidelines. The battle once nation-wide has settled down to the communities where you and I practice.

"To mourn a mischief that is past and gone is the next way to draw a new mischief on." So let us demonstrate that we can take it, and waste no time in vain repining, but let us be those that Shakespeare had in mind when he observed, "The robbed that smile steal something from the thief."

Title XIX

Fortunately, this part of the law is administered and designed at the State level and therefore great responsibility falls on the shoulders of The Medical Society of Virginia vigilantly to insure effective implementation, and to eliminate patterns which can subvert the intent, but our efforts to control should balance restraint against overenthusiasm.

Initially, Title XIX was our part of the law. It was really the Eldercare proposal which embraced *more complete care,* but only for those *who actually needed it.* The intent was good. We proposed a good law but we could not control the political cross-currents which created the pitfalls as to what income level should be considered needy and just what should be considered as income.

On October 6, the Ways and Means Committee approved a bill to reduce to some extent the Title XIX program.

Title XIX was intended by our profession to be a relatively modest expansion of the existing Kerr-Mills and you can see how even a good intention can become politically distorted. Can we expect any better treatment when we get down to the business of furnishing actual treatment to the patient?

Heart, Stroke, Cancer

Fortunately, the extent of implementation of this law is also determined at the local level. Not only the State but also the local societies must assume an active role in the planning stage of regional programs. And to this end, very early in this administration, your State officers called on county societies to form a Heart, Stroke, Cancer Committee and through the action of your Council, a Heart, Stroke, Cancer Committee of The Medical Society of Virginia was created with representation from each congressional district.

We must strenuously advocate limitation of treatment to research and limit the research and education to bona fide heart, stroke, cancer cases and truly related diseases. Efforts are already being made to give a broader definition to the wording of the law.

Delivered at Annual Meeting of The Medical Society of Virginia, Williamsburg, November 6, 1966.

"Officials trying to set up the new system of centers for research and treatment in cancer, heart disease, stroke, and other maladies have felt this same pressure. The word was that application which *planned to emphasize treatment over research should have priority*.

"Thus the public commitment becomes deliberately overextended to draw or drive physicians into community centers which in turn would be linked to regional centers, making up a nationally integrated system, that being the *real aim* of the recently enacted Heart, Cancer, Stroke legislation."

Hospital Specialists

The hospital specialists have been the first targets of an encroaching pincher movement to capture our profession. They were first subjected to an attempt to include them under Part A in the original law. This having failed, an attempt was made to include them by regulation and when this was successfully stood off, the next tactic was the bringing of a suit by the Justice Department, and even now legislation is waiting in the on deck circle to try to amend the law to include them under Part A.

Under the old strategy of dividing and destroying, the tactic of taking segments of our profession one at a time is here being employed. I submit to you that this should not be considered their battle alone, but the battle of the entire profession, and we should not let any branch of medicine stand alone in this struggle. We should fight side by side with them. The fight of the hospital specialists is the Viet Nam of the entire medical profession, and The Medical Society of Virginia should oppose any attempt by any group at any time to capture by any means any segment of our profession.

VaMPAC

I hear all too often the statement, "I see no need for VaMPAC now, we have lost the big battle." Nothing could be further from the truth. We now need VaMPAC more than ever. VaMPAC did a good job but it could have done more if its financial resources had not been so limited by contributions from our membership. We must work through VaMPAC, giving it our money, our ideas, and physical support.

Mr. Nixon said, "I believe it is essential for this organization at this particular time, rather than become discouraged about the past, to redouble its efforts."

The Doctor and Politics

"Politics," said Raymond Moley, "is not something to avoid, abolish, or destroy. It is a condition like the atmosphere we breathe. It is something to live with, to influence if we wish, and control if we can. We must master its ways or we shall most certainly be mastered by those who do." We should encourage and support all members of our profession who show any inclination to become a political candidate on any level.

The impact of the recently enacted sweeping medical legislation has made itself felt not only in the cities but in the rural communities as well. It is, therefore, I believe, important that the members of our profession not only participate in elections and support candidates but become candidates themselves at any level. We need physicians in the Senate and House of Delegates of our Great Commonwealth. We need them in city government, in the town government, and in the county if we are to have anything to say about controls that are enveloping us.

I want to salute those members of our Society who are now holding office.

"Government," said Bernard M. Baruch, "is not a substitute for the people, but simply an instrument through which they act. If the individual fails to do his duty as a citizen, government becomes a very deadly instrument indeed." The solution for an American's problem is not in terms of big

government, but in big men who acknowledge no control save God's.

Town and Gown

Today I hear much of the ever increasing split between the medical schools and the practitioner. I hear that the medical schools slant their students toward the ivory tower and downgrade the role of the practitioner. We are told that the medical students are being influenced by those who, even if not in favor of actual state medical care, are not interested in opposing it. I hear that the medical schools are primarily interested in the grants which will keep the wheels of research rolling. The question then is asked, will we be forced to try to satisfy the source of the grant, or the search for truth? Will we feel more responsibility towards conforming to the inevitable Medicare guidelines than towards the patients entrusted to our care?

No less an authority than Dr. Blasingame, Executive Vice-President of the AMA, warned that the Federal Government, the university and medical school complexes and the hospital system are combining "to mold and shape the pattern of health care in this country."

It seems to me that the medical practitioner and the medical educators must cooperate even more closely in the days to come than at present. This is not the time for a town and gown conflict. We need the unity of all the health professions during these critical times.

In the Royal Air Force window in Westminster Abbey there appear these words from Henry V: "We few, we happy few, we band of brothers." In view of the experiences we have shared over the years with some of our colleagues, it is high time that we "band of brothers" be re-established in medicine.

State Health Department

The old lines of responsibility between the Federal Government and the State Health Department have faded. Federal programs are coming into our State. The Virginia State Health Department is actively engaged in the administration of Medicare and in the planning for a new regional program for Heart, Stroke, Cancer. Because these programs are federal programs, the administration will be more difficult and will call for even closer cooperation between the State Health Department and the practicing physician.

Philosophy

Someone has said, "What matters most in history is not what happened, but what people said about it when it was happening." You have placed in me trust and unless I rise to that trust, my services as your First Officer will have been of little benefit to you. I am sure that you do not want me to compromise principles and be less willing or less alert than to recognize certain developments of vital interest to our profession and to our country. The very nature of my responsibilities this past year has afforded me ample opportunity to develop a philosophy concerning the changes that are taking place in our profession and today I would like to discuss the philosophy that I have developed regarding these changes.

One has the feeling that as time goes by, we are in a phase of the cycle which repeats itself in human affairs in which freedom is lost through indifference and eventually destroyed.

It is my belief that freedom survives in the minds of men and is nurtured with difficulty by small dedicated groups. The medical profession may have the privilege of being one such group, *if* it is found that we are equal to the task. The tide is running out, not in. Medicine has sometimes been called the Queen of the professions. Can the Queen buck the tide?

A recent letter to the Wall Street Journal pointed out that Sir Thomas Brown remarked, "Fallen angels suffer more afflictively in the contrary state of Hell." We

must confess that doctors are not angels and our patients are likewise subcelestial. The suffering in an administered medical care system might be even greater than the good Doctor Brown suggested.

We are now being asked to surrender our system of freedom in medicine to the tender mercy of Big Brother. We already have much of it in effect at the present time. The Medicare legislation was proposed with the promise and protestations, indeed, that there would be no further *expansion* of the plan, that it was not socialized medicine, and that it would not bring the doctors under conditions of slavery. I think a number of people were naive enough to believe this. Even before the bill was passsed, its sponsors tried to put the radiologists and pathologists under the bill, and since its passage, its supporters have come out for a frank system of state medicine and made no bones about it.

Senator Russell Long, the majority whip of the U.S. Senate said, and I quote, "It is inevitable that Medicare be extended to cover practically everybody, young and old. The next group will be the disabled." And so it came to pass that on Columbus Day, 1966, the President, in Baltimore, made known his plan for this extension of Medicare to cover the disabled.

We shall not forget Mr. Forand's statement of several years ago, "If we can only get our foot in the door, we can go on from there." A government foot has been securely placed in the door, and you may be sure that this foot will press harder to open the door wider until complete socialization of medicine has been accomplished. We must strive to chain this door so that it cannot be opened wider.

Without the enactment of another law, the Federal government already has the authority to take care of the health needs of virtually every man, woman, and child in this country. Further, it can call the tune in medical education through its construction grants, operational grants, and student loans. Presently it dominates research as the principal supplier of seemingly endless funds for research grants. It spreads itself even further into the direct financing of personal health care by rapidly expanding public health and public assistance programs, and by the addition of such programs as Medicare and regional centers for heart disease, cancer, and stroke. Wherever we turn, Federal medicine casts its shadow.

If this administration has any hidden formula which it is saving for the improvement of medical care, it has not made it apparent. It has turned agriculture into a fantastic confusion. It has fouled up labor management relations to the point where true collective bargaining has been impossible. Its efforts in the international field seem to have gained us more enemies per element of time than was ever before experienced by our nation. Dollars which have gone into foreign aid have served the double purpose of supporting our enemies, and alienating our friends. Whatever they touch, they contaminate. Whatever they manipulate, they wreck. What qualities have they which will improve our work?

It is a fearful credit to this administration that it has been successful in obtaining almost unanimous support from all communications media with the total exclusion of a loyal opposition in the campaign to discredit our profession.

We are challenged to set up remedies for our deficiencies and it does not profit us to point out the growing life expectancy in America or the decreased mortality in various diseases. Over 300,000 babies born last year are alive today as a result of the great advances in medical care in the last 45 years. These babies will live and be productive ten years longer than their 30 year old parents. More than four million Americans living today would be dead if the U.S. death rate had remained at the 1937 level. A new mental patient entering a psychiatric institution in 1932 could expect to spend at least 30 years there. Today two-thirds of the new admissions to mental hospitals are

either cured or discharged to outpatient care within 12 months. Almost half of the hospitals used for the care of tuberculosis patients as recently as 1956 are now available for other purposes. Our critics are unable to comprehend that we are the only profession which constantly strives to eliminate the source of our livelihood.

Medical care is getting better and better, as the doctor's share of the medical dollar becomes less and less. During the time that the cost of living has gone up 130 per cent, medical costs have gone up only 112 per cent. They fail to recognize that we devote 1/8 of our time to charity.

Some feel that most of the discontent which is being fanned into hostility by government officials should be patiently endured in the hope that it will be slowly remedied. A more positive approach must be adopted. The American people should be made to recognize that the medical profession of America and those who are beginning to believe that they have been badly treated have a common enemy. It is a political predator, radical, assured, working through time, and the excellence of our work and the cost of everything, to add to his bundle of goodies. Of all the disciplines in this country, that which stands least in need of government intervention is the practice of medicine. It will debate at any time, in any place, its own excellence as compared with the achievements of those whom we laughingly call, mixed with tears, our servants.

We have actually reached a situation in this country where belief in individual liberty and opposition to the unlimited spread of a domineering government is highly unpopular. It is becoming increasingly apparent that our populace is fast developing a philosophy of entitlement. Unfortunately, we no longer emulate the strong desire for freedom that our forefathers had. "Once we roared like lions for liberty, now we bleat like sheep for security."

In such a system, everything fades away into a shadow world in which, frankly, even the day of the year becomes uncertain. That is what is being pushed upon us. Unfortunately, too many with collectivistic leanings have captured seats of national power in this country.

Obviously we have a good way to go before we reach anything like full collectivism. What else is the portent of the revolution in Washington under the aegis of the misnamed liberalism of the day? Some of the ostensible purposes, like fighting poverty, may sound noble; the effect of totality is none the less to make the Federal Government more and more the dominant force in the economy, in society, and in the very life of the individual.

If Horace Greeley were around today, he might well suggest, "Go east, young man." The opportunities for a career as a faceless Washington bureaucrat are indeed unprecedented. It will be a wonder if enough tax payers in productive enterprises *can* remain outside the fold to support those who serve so faithfully in Washington.

The guiding philosophy would seem to be a belief that all the ills can be cured by imposition of bureaucratic decision making. Ironically, the instrument being used to impose this view is in fact the antitrust legislation originally put on the books to foster competition. But as with men, the evil that laws do lives on, while the good is often interred with the intent with which they were enacted.

Anyone who thinks that progression of all this is harmless, or easily reversible at any time is exhibiting something worse than the wishful thinking of middle age. He is showing blindness to all human experience with governmental power, including the experiences that led a group of brilliant men to form a government of free citizens on this continent.

Dr. Ernest B. Chain, English biochemist, Nobel Prize winner, in whose own country the government humors voters with bottles of aspirin and free doctor appointments,

had these things of significance to say: "The great age of medical discoveries may be coming to an end. In England the incentives for doctors to explore new ideas have been destroyed. His government is more interested in the ballot box effect and more free medical care than in basic research. No matter how sincerely they seem to want to encourage the proper sort of research, they are conscious of the politician always looking over their shoulder. The more political influence we permit in the field of medicine, the more surely we will sacrifice individual excellence for mass mediocrity. The United States may be heading down the same path."

There was really no popular pressure for programs in this country such as Medicare and Renticare. It is becoming increasingly evident that the public neither understands, desires, nor can avoid harm from the system of medicine being designed for it. It is the product of the welfare philosophers now firmly entrenched in power. There will be undoubtedly a continuation of the current trend of expansion of Federal Government into every aspect of American life, and the formation in many Americans of a mentality that accepts coercion from above—a mentality that will know *not* the concepts of individualism, ambition, and the savor of personal success that made this country what it is. I think the path which we are following is unmistakable and while it may *not* happen next week, or next month, or next year is beside the point. We are well on the road.

What can we do about it? We can resist it as best we can, and we can be the custodians of truth for those who come after us. Every state, county, and specialty society must discard its own special interests so that organized medicine can speak out loud and clear with a united voice. Every intern, resident, and physician in this land of ours must take up the challenge of personal responsibility and become an informed and active participating voice in the affairs and future of our profession. Every state and local society must take active leadership in the health affairs of the community. Now is the time to become involved. If medicine as we know it today is going to continue, and if we are going to be permitted to care for our patients in a manner dictated by our professional judgment and experience, then each of us in each medical society will have to take the time and trouble to become informed and become active in these affairs of government. This is a task that only you and I can and must do.

Responsibility rests upon each of us whether we like it or not. We are the governors of the future of our profession. In us is invested the duty of safeguarding that which in our profession is worthwhile. It comes to us as a trust and not merely a benefit. Unless we rise to the trust there will be little benefit to us. We cannot compromise principles or be less willing or alert or fail to keep the freedom that our fathers lived for, fought for, and died for.

The English philosopher, John Stuart Mill, clearly saw the perils of overcentralization a century ago when he said, "The nation which sacrifices liberty to a little more administrative skill or semblance of it, or which dwarfs its men in order that they may be docile instruments, even for beneficial purposes, will find that with small men no great things can ever be accomplished." We should continue to fiercely resist overcentralization, and continue to help foster programs of medicine that promote greatness so that we can continue to accomplish great things in medicine.

One of the questions which occupies those of us who have opposed socialized medicine is, where is it all going to end? I don't suppose anybody knows the answer. We can only rely upon the lessons of history to forecast the future.

The history of socialized medicine in all countries has been that of:

1. Establishing the system on the basis of political expediency without a demonstrated need.

2. Abuse of the system by the public which leads in turn to
3. Restrictions and curtailment of services and tremendous increase in costs.
4. The system, faced with financial breakdown and being sensitive to the voter's wishes, will not curtail services beyond a point or cut costs beyond a point and therefore seeks to cut the costs by diminishing the compensation to the physician.
5. The physician is thus faced with the problem of providing his services under conditions of servitude.
6. He and his work are degraded, and he himself is imposed upon and humiliated.
7. As a result of poor working conditions, low compensation, and long working hours, he turns to mass action, the only weapon left to him, and thus he is reduced to a status of a day laborer who must use union tactics in order to survive.

The planners believe that under political control, proper medical care can readily be ordered and correctly served up to its needy customers. By being a political issue, the quality of medical care will no longer be determined solely on scientific grounds but rather on the vote getting appeal.

A recent New York Times editorial indicated, "The President is irked about the slowness of progress towards curing cancer and heart disease. He wants to zero in on the target and get more results. It is understandable that politicians want quick results, preferably delivered in time to provide useful material to include in the campaign speeches before the next election. Scientific progress has its own timetables which cannot be ignored."

We were told by the President in substance that we must work harder to reduce disability so that the disabled can become effective tax payers. With this we agree, but I fail to find any semblance of consistency in this attitude when we, on the other hand, see the government harass and discourage one of the best groups of tax payers, those engaged in private endeavor.

Times have certainly changed and in these cold and arid times the political planners have little apparent practical concept of methodology except to pour huge sums of money in a misguided effort to solve any medical problem that arises.

I think everybody knows what the medical profession is against, but it may not be too clear to the public, and perhaps to us, what we are *for*. We are for the preservation of quality ethical medical care and medical freedom for the physician and the patient alike and, indeed, freedom for all America.

In our fight to preserve our professional freedom, we are fighting to preserve and perhaps to even advance the total freedom in our country.

Although it will be difficult in the years ahead, quality ethical care must survive and dedication to its ideals must be exercised. The authority of the medical staff of the hospital to make medical decisions must be preserved if our patients are to receive the quality medical care they deserve. Determination of the type and extent of medical care in the hospital cannot and should not be made by administrators.

I still believe we will need freedom from government control in order to do our best. I personally believe that we have lost much of this and that we are well on the way toward losing more.

We are for public relations programs which place emphasis on public relations at the individual patient-doctor level. But I am afraid our efforts are frittered away in giving our point of view to the physicians. We don't need this. The public needs it.

We should be for the practice of *private* medicine for those physicians who wish to do so, and we are certainly in favor of free choice of physicians. We should defend the rights of those physicians who do not wish to participate in government medicine. We

should continue to hold sacred the desire to provide our services to our patients under a private system and we can do so because there is no other group so trained or in fact licensed to provide this service. We are the only source, but we seem to lose sight of this when we are confronted by those who would seek to regulate us as a public utility. I believe we should be in charge of our own affairs. I believe that many of our troubles may have been brought on by ourselves through neglect.

Certainly we must be for the right of the patient and physician to determine fees to be arrived at by mutual understanding. We certainly must have access to the minds of the medical students. We should stand for reduction of government competition with its citizens in all fields of endeavor.

I think that doctors can work under any system as long as they can control it. If we lack the will or interest to do this, we might as well become reconciled ourselves to being destroyed as a profession.

Of course, the tragedy in all of this is that so many seem neither to realize nor care just what is happening to them as an individual in our society. If you ask the wage earner the exact amount he pays the federal government each week in income tax, the likelihood is he won't know, thanks to the almost painless operation of withholding. He never sees or handles it because his employer acts as an unpaid deputy tax collector. The power to tax is the power to destroy and there can only be one result when it is granted by a tolerant or indifferent people.

The most discouraging aspect is that so few really seem to care. Albert Kanode said, "Conscious of the fact that I cannot separate myself from the time in which I am living, I have decided to become a part of it." He might have added that in becoming a part of it, there is nothing that pertains to people, principles, or their problems to which one could properly be indifferent.

"In shutting ourselves away from the things over which men agonize," wrote an unknown author, "we shut ourselves away from the very difficulties which indifference would tell us to ignore. We shut ourselves away from the very involvement and responsibility by which character grows."

Much to my dismay, I hear many who say, "There is nothing we can do about it now." Doing nothing about it means deserting the time honored symbol of the physician of working around the clock in favor of the time server who punches a clock. There is danger in indifference to principles and problems that pertain to our times. We must avoid the "I don't care" attitude.

"The most distressing aspect of the world in which we are living," said Robert Hutchens, "is its indifference to the basic issues which now, as always, are moral issues although we do not always recognize them as such."

In a screen play recently recalled, one of the characters, a young physician, expressed bitter disillusion because of the prejudice and unfairness and incompetence of the Chief of a hospital. At this point in the play, a wise and seasoned old physician said, "he is a political appointment and there is nothing either you or I can do about it." I say to you today that we may find all too soon that not only the young physician, but likewise the old physician, will hear, "he is a political appointment and there is nothing we can do about it."

The Federal Government, through the program of Medicare, has planted itself in the middle of the practice of medicine and there is every indication that it plans to cultivate the crop so planted.

Quoting the Assistant Secretary for Health and Scientific Affairs of HEW at a recent meeting of the Organization of State Medical Association Presidents in Chicago, "Over the past five years, truly momentous measures have been taken to meet

pressing national and community needs and to *right* many wrongs. Six or seven years ago even the most starry eyed visionaries would not have predicted that all this health legislation would be enacted in 1966. We have witnessed an unprecedented series of legislative *triumphs*. But unlike Alexander the Great, we will not weep for lack of new worlds to conquer—for the greatest challenges lie still ahead."

In seeking to regulate our profession, the government will enticingly invite us to trade our long hours of hard work, missed vacations, and irregular meals for regular hours, guaranteed wages, and many other beguiling fringe benefits. But they will require from us, in the trader's language, something to "boot". The "boot" that they will require will see the art of medicine degraded and ultimately pass into nothingness. They will require responsibility toward regulatory guidelines at the expense of patient care. And as the thread of government medicine is woven into our fabric of daily practice, we will see the time honored doctor-patient relationship give way. We may well see the allocation of hospital beds become a political plum. The government will not only join us at the bedside, it may soon meet us at the sickroom door.

In the humble role of being servants of the sick, we are correspondingly important in our community. Our patients will listen to our simple political views. In the grossly mismatched contest in which we have been cast, we must also do battle at a local level. The tactics employed by medicine so far have been that of attempting to ward off the blows of the aggressor.

While these tactics may have served as a delaying action, they have gained us no victory. "Battles are won with the sword, and not the shield."

Closing Remarks

Our profession is on the verge of entering a second Dark Age. To paraphrase the words of another, There will be times in the lives of all of us when the flame of the spirit will burn low. We will be out of heart and will hardly know what to believe. The evil in the world will seem to deject us and worst of all, we may drift into indifference. The lamp may seem to drop from our hands. But if we watch ourselves as we ought, and when we find we are losing the finger edge of our kindness and truthfulness, we should keep right on remembering with a steady faithfulness that the pursuit of excellence in patient care is the most important product of medicine and when a human being with a problem comes to another human being with the hope of finding a solution, even in this Medicare era, the role of the medical practitioner still consists of attempting to supply that solution on a uniquely personal basis.

We must prepare to seize and keep the initiative. We cannot and must not throw in the sponge and quit the struggle. We must be more concerned and use our influence more than ever before. We must display vigilance and strength. We need the unity of the health profession that these critical times demand. We and only we can keep alive a keen desire for freedom in medicine. We are the stewards of the greatest profession civilization has produced and unless we have the unity and desire for freedom in medicine, we shall have failed in our stewardship not only to those who precede us, but to those who come after us.

I will close with a sentence taken from "The Colors" by Nathalia Crane: "We do not choose our battlefields, the gods do that for us; but we can plant a standard where a standard never flew."

The battlefield has been chosen for medicine and it is now up to us to plant the standard.

Farewell

As I stand before you for the last time as your First Officer, my thoughts go to the words of Winston Churchill, who, when he was asked if he would like to live his life

over replied, "happy, vivid, and full of interest as it has been, I do not seek to tred again the toilsome and dangerous path. Not even an opportunity of making a different set of mistakes or experiencing a different set of adventures and success would lure me."

I am thankful to have arrived at this point as well as I have and am grateful to you, the members of The Medical Society of Virginia, for the full measure of constant support and warm encouragement you have given me at every turn. I will be everlastingly grateful for the loyalty and friendship which I have enjoyed.

It is sad to do good and pleasant things for the last time, to part from useful tasks which I have become accustomed to, to gaze for the last time on the various items of the agenda and come to the last line and there leave behind a cherished part of my life.

Now to you, the members of The Medical Society of Virginia, I thank you all for the privilege and rich experience of serving as your President. I am proud of having been honored by the election to this office, and will always be available to serve in any capacity. I desire no future that will break the ties of the past.

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609 South Jefferson Street
Roanoke, Virginia

Clinical Center Study of Malignant Lymphoma

The cooperation of physicians is requested in a study of lymphosarcoma and reticulum cell sarcoma in children and young adults. This study is being conducted by the Medicine Branch of the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

All clinical stages of biopsy-proven disease are acceptable, and untreated patients are preferred. Slides of pathologic material must be submitted for review before patients can be accepted.

Of particular interest are those patients with clinical and histologic features similar to the malignant lymphoma of African children (Burkitt tumor). These patients generally present with jaw, ovarian, or abdominal masses. The purpose of this study is to conduct immunologic, virologic, pathologic, and chemotherapeutic studies.

Suitable patients will be admitted to the Clinical Center in Bethesda, Maryland or to one of the participating medical centers. Physicians who wish to have their patients considered for the study may write or telephone: John L. Ziegler, M.D., The Clinical Center, National Institutes of Health, Building 10—Room 12-N-226, Bethesda, Maryland 20014. Telephone: 656-4000, Ext. 64251 (Area code 301)

Some Guideposts to Preparation for Surgery in the Upper Extremity

CHARLES L. McDOWELL, M.D.
Richmond, Virginia

Operations on the upper extremity require special apparatus which can be constructed easily and inexpensively but which is not always available in the hospital operating room.

MANY SURGEONS find themselves unnecessarily handicapped when operating about the elbow, forearm, and hand because their hospital does not provide some of the very essential adjuncts. They make provision for a table to put the patient on but not his arm. The tourniquet which is an essential part of any operation in the areas mentioned is either not provided or its use is not thoroughly understood by the operating room personnel. Finally, improper draping limits the accessability of the extremity so that wide exposure is impossible.

It is my intention to demonstrate a table upon which one can perform upper extremity surgery with a minimum consideration of cost and bother and maximum consideration of function. Then a few comments on our experience in the use of a pneumatic tourniquet may be of some benefit. Also the draping technique as used by the hand clinic at the Medical College of Virginia will be demonstrated.

First, the table upon which hand surgery is performed must be stable, of appropriate size, durable, and easily understood by all working in the operating room. It is my opinion that the tables presently designed to fill our needs are too large, too expensive, and are difficult to use, maintain, and store. Most of them have a leg for support which must be adjusted every time the operating table is raised or lowered for the comfort of the surgeon.

A most satisfactory table to suite the needs of most of us can be constructed in the carpenter or engineering shop of any hospital using the following dimensions and materials. It should be 14″ x 54″ and should be made of 3/4″ marine plywood. This should be sanded and finished with a good varnish. We have cut a hole at the balance point on one side to be used as a handle. This improves its portability. The table is stabilized by attaching it to the operating table on the opposite side with a "C" clamp which can be obtained from the hospital shop. This will not interfere with attachment of arm boards by the anesthesiologist for administration of IV fluids. The total cost of such a table, less labor, should be about six dollars. See Figure 1.

In using the pneumatic tourniquet it has been our practice to inflate it on the upper arm to a pressure not exceeding 350 mm. mercury for a time not to exceed one and a half hours. If more than one and a half hours are required to complete the operation the tourniquet should be deflated and kept down for five to 10 minutes before reinflating. We have not exceeded one hour after the second inflation but one could possibly proceed to one and a half hours. We have never had to deflate and reinflate for a third period of surgery but we would not hesitate to do so. The tourniquet is inflated after the extremity has been exsan-

guinated with a sterile Eschmark or elastic bandage. Exsanguination without using the Eschmark bandage is performed by temporarily elevating the extremity prior to inflation of the tourniquet in cases where there has been trauma and the wound is dirty and in patients with either an infection, a tumor, or a ganglion.

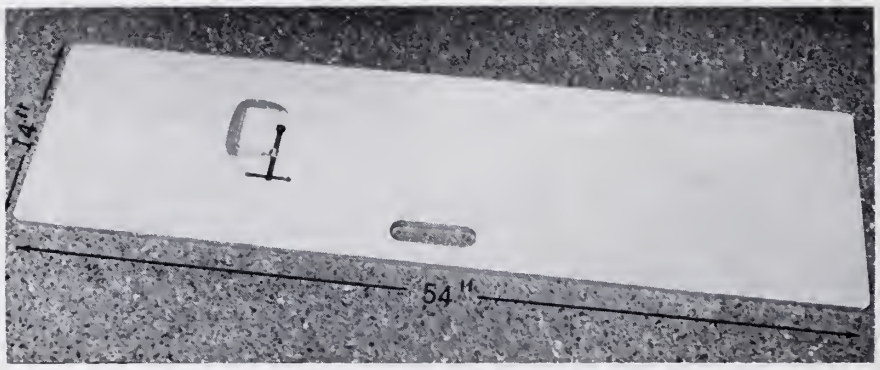


Fig. 1

Getting the greatest possible benefit from the table now becomes a function of an accurate draping technique. The one used in our clinic is that used by Dr. Robert E. Carroll, chief of the Orthopaedic Hand Service at the Columbia Presbyterian Medical Center in New York City. It is a flexible technique which will allow excellent exposure of any part of the hand and arm to above the elbow and the extremity can be moved from its location on the table to the chest or abdomen if a direct flap or tube is required. The precision and adaptability of the method have caused it to become widely used.

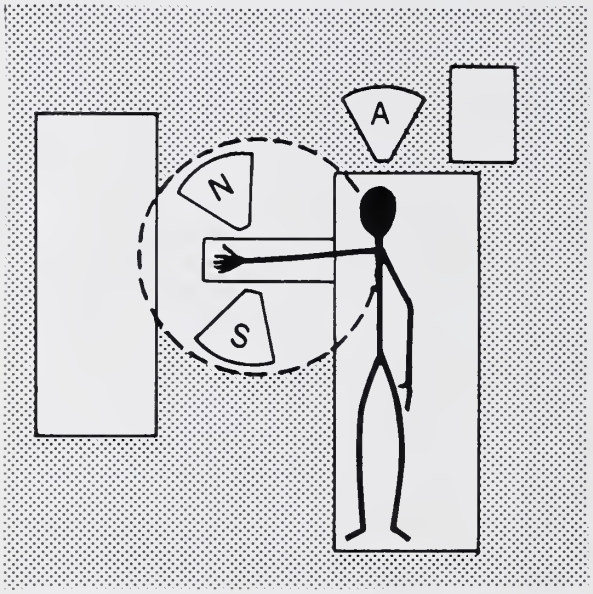


Fig. 2

A diagram of the set-up and draping method follows:

The diagram (Figure 2) demonstrates the relative position of personnel and equipment after completing the set-up and drape. You will note that the operating table and the anesthesiologist with his equipment have



Fig. 3

been placed eccentrically in the room so that the field of operation will be closer to the center. This facilitates lighting and movement about the sterile field.

Once the operating table has been moved the patient is placed on the table a bit toward the side to be operated upon to gain more exposure. The arm board is then attached by sliding it beneath the mattress and clamping it to the opposite side of the table.

Preparation of the patient begins after the pneumatic tourniquet has been applied high on the arm. An assistant should hold the extremity as far proximal as possible so that preparation can extend to the elbow or above. When the preparation is finished we like to use a simple rolled stockingette to keep skin exposure to a minimum (Figure 3).

The surgeon should, after application of the stockingette, direct the nurse to drape the arm board with a folded sterile sheet.



Fig. 4

This should be thick enough to provide padding. Next the surgeon unfolds a towel leaving a four inch cuff at one end. The arm is placed on this towel and the cuff clipped to itself (Figure 4).

A second towel is then folded in half and placed over the top of the arm and clipped to itself beneath the arm (Figure 5).

The patient is further draped out of the field with appropriate long sheets and a half sheet stretched from an IV pole and clipped to the drapes obliquely across the patient's chest. A third towel is then clipped to the drapes (Figure 6). This effectively seals the



Fig. 5

sterile field. You will further notice in the last photo that a towel has been rolled up to serve as a movable cushion.

In summary, the surgeon who chooses to



Fig. 6

operate upon the upper extremity to repair an acute injury or for reconstruction will be faced with many decisions. It would be unwise for him to limit the possible choices of treatment because of inadequate preparation.

2222 Monument Avenue
Richmond, Virginia

"Gas Around the Heart"

RICHARD T. WADE, M.D.
Lynchburg, Virginia
M. J. MOORE, M.D.
Roanoke, Virginia

It is not enough to know the true significance of your patient's symptoms. One should also understand the significance that the patient attaches to them.

A PHYSICIAN cannot hope to reassure a patient effectively regarding his symptoms if he does not understand why the patient is concerned over them. Several folk-tales persist in this country, which cause the "informed" patients to worry; and the relative lack of knowledge among physicians, and especially among more recent medical graduates regarding one of these beliefs, prompted this survey and report.

Approximately 30 years ago, one of us (MJM) first heard miners and farmers of a mining area in southern West Virginia complain to his physician-father of "gas" symptoms, and noted the concern of these people about the possibility that "this gas might get around the heart". There was a folk-tale in the area that gas of the upper digestive tract could produce a sudden, fatal illness ("acute indigestion") if it "accumulated in the area around the heart". Knowledge of this fable would cause the people who has minimal symptoms of "gas" to experience anxiety until they felt that they had "brought up the gas". "Uninformed" patients who had been merrily belching their "gas" for years without concern would develop anxiety when they learned this strongly-held belief from those "better-educated" in folk-lore. While in medical school, internship, medical residency and the U. S. Air Force, (Virginia, West Virginia, North Carolina and South Carolina) more patients were encountered with similar anxiety over their symptoms of "gas", and it was realized that the belief was not strictly localized to southern West Virginia. During practice in Virginia, patients continued to be encountered with similar expressions of concern; and while lawyers, laborers, teachers and housewives seemed to be aware of the "fearful" consequences of "gas", many commented that the internes at the local hospitals "hadn't been able to help them", since they had "only" given them a teaspoon of an antacid while advising them to consult their family doctor in the near future. We asked many of these patients if they had told the interne or the private physician of their fears of a fatal illness from "gas getting around the heart", and the majority said they had not bothered to do so, since they thought all doctors must have been taught in medical school of the dire hazards of "gas".

The origin of this folk-tale is probably related to the fact that many people were thought to have died of "acute indigestion" in former years, when in fact they likely had coronary occlusions. If these sick persons tried to relieve their "indigestion" by belching, the tales of "acute indigestion" and "gas around the heart" were probably magnified. Their relatives and friends would understandably experience concern after they themselves had belched several times in succession. Since the diagnosis of coronary thrombosis was not made with any

regularity before 1912, it is reasonable that a number of people still survive who have heard this tale from relatives, and in many instances they have transmitted it to a number of younger patients.

A discussion of this folk-tale between the authors caused speculation as to its width of distribution, and a questionnaire (chart I) was sent to the Cardiology Departments of medical schools throughout the country asking if this was a commonly-used term in their particular area. Chart II illustrates the responses, and 67% of those who answered stated that the term was in use. While positive and negative answers were received from the same geographical areas as well as from the same states and cities, an affirmative report was judged to indicate the expression was in some use in the area, although all those responding said that a more detailed history would be required to evaluate the complaint. Some expressed the opinion that the origin was most often coronary artery disease, and most of the remainder expressed an opinion that the complaint represented digestive tract symptoms. None commented on this folk-tale or the anxiety associated with it, although the phrasing of approximately four of those polled may have indicated some knowledge of it. It is obvious that only a minute fraction of the medical population* of these areas was polled, but we believe it was an interesting portion to evaluate since it is the department of the medical school which teaches the students about cardiac disease and cardiac neuroses.

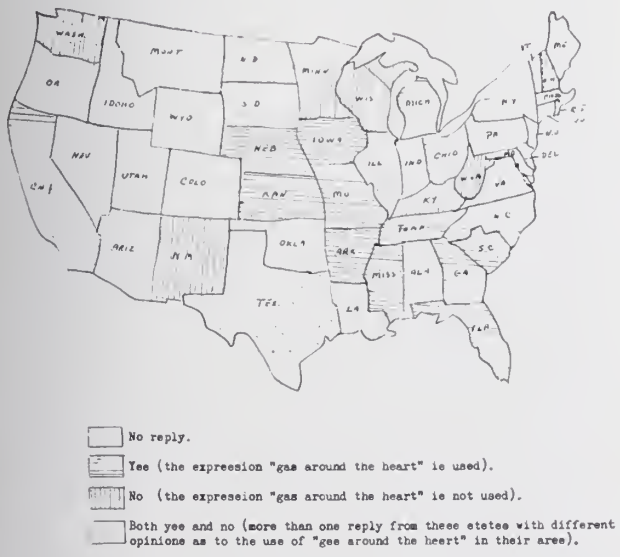
In order to have a better evaluation of the expression in our area of southwestern Virginia, we personally interviewed forty-five local physicians, and 20% had no knowledge of it. On further questioning, the majority of the older physicians recalled the folk-tale, whereas the majority of the younger physicians had not heard of it unless they had grown up in a rural area. One hundred successive office patients were also interviewed, and we found fifty-nine who were acquainted with the expression; many of the remaining forty-one were aware of indirect references to it such as "soda should not be taken for indigestion —it may cause a heart attack, or acute indigestion". Most of the fifty-nine who were acquainted with it had heard of it in childhood, and twenty-seven of these still believed it, or were, at least, uncertain. Fifty unselected hospital clinic outpatients were

CHART I

During my internship and residency in Virginia, I have encountered a number of patients who have expressed concern over symptoms with the lay language of "gas around the heart". My curiosity has been aroused as to whether this is a southeastern colloquialism, or whether it is the cause of patient anxiety throughout the country. I am sending this brief questionnaire to the medical schools, and would appreciate it if you would take the time to answer it.

1. Do patients in your section use the expression "gas around the heart"?
2. If so, were you aware that it was a colloquial expression in your region before inquiring about it?
3. If patients of your area do complain of this, what do they generally mean by it?
4. Do your medical students and resident staff have knowledge as to what the patient is referring when he complains of "gas around the heart"?

CHART II
RESPONSE TO QUESTIONNAIRE BY STATES



*The reply from West Virginia University's medical school was "no", but the authors know the expression is in common use in that State (or in the southern part of the State).

polled, and thirty-nine of this group of lower economic and educational level were familiar with the expression. Twenty of these patients were undecided and uncertain as to the truth concerning the fable, but another eleven considered it to be a very serious problem. Three documented this belief with stories of friends who took "soda" (sodium bicarbonate) for chest pain, and died immediately. One was so exact as to state that "gas around the heart kills many people between "43 and 63". These results are summarized in Chart III.

CHART III
"GAS AROUND THE HEART"—KNOWLEDGE OF THIS COLLOQUIAL EXPRESSION

	*U.S. Medical Schools Cardiology Departments (60)	Private Physicians Roanoke, Virginia (45)	Private Patients Roanoke, Virginia (100)	Clinic (Indigent) Patients Roanoke, Virginia (50)
Had heard the expression	67%	80%	59%	78%
Aware of fable associated with the expression	? **	40%	59%	78%
Believed the fable to be true (or were uncertain)			27%	62%

*Of eighty-two questionnaires sent, replies were received from sixty medical schools.

**Although about two-thirds of those who had heard the expression thought the complaint was associated with gastrointestinal complaints, and about one-third thought it to be associated with cardiac problems, it was not possible, in most cases, to determine if they were aware of the fable associated with "gas around the heart".

Discussion

It is the authors' belief that a large number of patients residing in Virginia, West Virginia and North Carolina have heard of the "syndrome" of "gas around the heart", and we also feel that it is probably well known throughout the entire southeastern United States. There is a possibility that distribution outside the southeast reflects migration of the laboring population. The time of origin is not known, and no references to it could be found in the medical literature, although a textbook from 1919[1] discussed "accumulation of gas under the heart" as a manifestation of gas in the splenic flexure of the colon. One of the cardiologists did comment that a number of European physicians used similar expressions. Another stated that there was a product advertised in California with which to treat "heart gas", probably indicating that someone had recognized the commercial aspects of the "synodrome". A surgical resident from Columbia, South America, said "gas around the heart" concerned some patients in his country.

While older and less well-educated patients will be more prone to use the expression, and to be fearful of "gas", some who are young and well-educated will also be encountered who accept this for a fact. Older physicians are more aware of it than younger ones, but a radiologist of forty years experience commented that he had wondered until then why so many patients had seemed concerned over their "gas". It was of interest that about a half an hour later, an orderly from his hospital was seen to rush to the side of a patient sitting in a wheelchair, slap him on the back, and comment, "My! Lucky you belched that gas up—it mighta got around yo' heart, and killed you!"

It is not our intention to advise physicians to dismiss lightly the patients complaining of "gas", since it is necessary to determine what the patient means. Some will be referring to cardiac pain when complaining of "gas"; but should the patient be experiencing only eructations, it might behoove all physicians to inquire if the patient has heard of this fable, and then reassure him that there is no present-day medical basis for it. It might be helpful in his reassurance to explain that the fears over "gas around the heart" apparently originated before coronary occlusions were recognized.

It is of interest that a recent article[2] describes exactly the opposite situation, with patients having pain typical of coronary occlusion, and trying to deny it. Patient #13 in this series tried exercises in an effort

to "get up the gas", and finally accepted his wife's opinion that his pain might be originating from his heart.

One reviewer of our medical school questionnaires asked if this was a thinly disguised effort to question the practical aspect of teaching. This was not our aim, but it is our opinion that medical schools should make an effort not to overlook the colloquial expressions that abound in their areas, and inform the students of them as part of their preparation for medical practice. It was of interest to learn that a Duke University Medical School graduate of 1939 knew of these expressions, since they were commonly heard when the outpatient department of the school saw a large number of nearby farmers. A more recent Duke graduate had trained in the Cardiology Department there, and was unaware of the folk-tales concerning "gas", reflecting the more sophisticated type of patient seen there with the development of national prestige of the school. The older Duke graduate also told us of a quaint custom whereby many Negro farmers had brought an axe to the hospital which they deposited under their beds "to cut the pain".

There are numerous expressions similar to "gas around the heart", and one such is "If shingles (herpes zoster) occurs on both sides of the chest, and meets in the middle, it will be fatal." Physicians and friends of the patient can cause the psychoneurotic patient much concern by using the term "nervous breakdown", since the patient* will invariably associate this with the most depraved or psychotic person they have known for whom this diagnosis was used.

Summary

The term "gas around the heart" has been discussed, and the significance assigned to it by many patients of the Virginias-Carolina is the subject of comment. A poll of Cardiology Departments throughout the country reflected that the term is in use in many other parts of the United States, but few of those replying seemed aware of patients assigning any sinister significance to eructations. It is suggested that knowledge of colloquial expressions and medical fables can be of some assistance to the graduating medical student, and will help practicing physicians to reassure their patients.

*This applies particularly to the reasoning of the average depressed patients.

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18 Medical Center
Lynchburg, Virginia

Clinicopathological Conference . . . .

Salmonella Sepsis, Chest Pain and Collapse

Prepared and Edited by
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CLINICAL DISCUSSANT:
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This conference was held on February 19, 1966
UVH #55-32-06
Autopsy No. 10513

Clinical History

This 76-year old widow began vomiting and having diarrhea about three weeks prior to her referral to the University Hospital. Initially there were no other symptoms, and anti-diarrheal measures were used for a presumed gastroenteritis. A week later she developed chills, temperature 102.4 F, and was found to have auricular fibrillation at a rate of 112/minute. Upon admission to another hospital on 11/23/65, "tenseness" of the abdomen without tenderness and a slight dehydration were the only remarkable physical abnomalities. Blood pressure was 126/64. At that time the hematocrit was 36% and WBC 44,600 with a marked increase in band cells and PMN's on smear. A urinalysis showed slight proteinuria and numerous RBC's in the sediment. Other studies, including tuberculin skin test and serum amylase, were unremarkable. Digitalis, fluids and chloramphenicol were given. While she was in that hospital, nausea and vomiting persisted, and vesicles appeared on the oral mucosa. Ecchymoses in the skin were noted. Platelets appeared normal in a blood smear. Rising titers of salmonella agglutinins were observed, and the patient was transferred here. Past medical and family histories were unremarkable, although it was of interest that her mother had died of typhoid fever in her 50's.

Examination here revealed a well-nourished elderly woman who was anorectic, vomiting occasionally, but not considered to be in acute distress. Temperature 38°C (100.5°F), blood pressure 180/60, pulse 60-90/min. A few small ulcerations were noted in the mouth and lower lip. A few unremarkable lymph nodes were felt in the right axilla. The cardiac apical impulse was prominent outside the midclavicular line. There was a systolic murmur in the aortic area, and one observer described an aortic diastolic murmur. The abdomen was tense and doughy, but without tenderness or masses. Prominent capillary pulsation in the nailbeds was noted, and arterial pulses were full.

Laboratory: Initial Hct 40%, subsequently 33-35%, WBC 13,400 with 2 bands and 84 segs. VDRL non-reactive. Urine was grossly bloody with 2+ and 3+ protein. Blood sugar, urea, bilirubin and alkaline phosphatase were normal. SGOT 88, SGPT 32, LDH 88 units. Urine cultures showed a few bacterial colonies with no predominant organism. A throat culture grew Pseudomonas aeruginosa. One of the three blood cultures showed a Salmonella organism, and on 12/8/65 a stool culture which had been submitted at the first hospital was reported as Salmonella typhimurium. Fungal skin tests were negative. Febrile agglutinins were positive for paratyphoid A at 1:80 and 1:160, and for paratyphoid B at 1:320 and 1:640. Chest x-ray showed cardiac enlargement, fluid at the left lung base, and possibly a left lower lobe atelectasis. Pleural fluid was yellow, cloudy, and sterile with 490 cells and S.G. 1.021. Intravenous pyelogram was normal.

Hospital course: She continued to vomit intermittently. She was weak, but able to

be up to walk to the bathroom. Temperature ranged 36.8-37.8 C. Enteric isolation was prescribed. On 12/9/65 she was unchanged except for a complaint of left posterior chest pain radiating to the left subcostal region. Chloramphenicol was begun. On 12/10/65 the infectious disease consultant recommended the addition of "Ampicillin", and this was done. On 12/11/65 the patient complained of breathlessness and tightness of the chest. It was felt that the cardiac murmur was of increased intensity, there was dullness at the left lung base, and a pleuropericardial friction rub was heard. Oxygen was given. She was placed on the critical list. On 12/13/65 the patient was heard to be coughing or retching, and she was found without pulse or respiration, with a large quantity of bloody mucoid material in the emesis basin beside her.

Clinical Discussion

Dr. Hunter: This 76 year old widow had apparently been in good health until this illness, which resulted in her death after about one month of diarrhea, vomiting, and fever. We are not told what the anti-diarrheal measures employed at the first hospital were. It is important to know whether antibiotics were given. I expect that they were, because later her throat culture grew Pseudomonas aeruginosa, which can be found in the throat, but most commonly after antibiotics have been given.

Dr. David Smith: She received chloramphenicol, in total daily doses of 2 Gm. orally from November 24th until December 2nd. At that point vomiting became so severe that she could not retain it.

Dr. Hunter: Then she did have an appreciable amount of chloramphenicol before getting here. The initial physical examination seems not to have given much valuable information. The early report of a white count of 44,600 with a marked shift to the left, even allowing for her dehydration, is impressive and probably meaningful, although later on in her course here the count was only 13,400. The development of vesicles on the oral mucosa and ecchymoses on the skin are not of diagnostic significance to me at this point, but the critical piece of information obtained at the previous hospital seems to have been the rising titers of Salmonella agglutinins.

The history of her mother's death from typhoid fever is intriguing. I am not aware of any familial tendency on a genetic basis to Salmonella infections, but there may be. Almost everything that happens to us has a genetic component. We have to be humans in the first place to be susceptible to human diseases. One's constitution is what it is, and the subtleties of the variations on this theme are still to be elucidated as we learn more about the genetic constitution of man. But so far as I know there is no outstanding predilection in families for typhoid fever and other Salmonella infections.

On examination here, attention becomes directed to the aortic valve because of the bounding pulses, blood pressure of 180/60, and the fact that one observer heard an aortic diastolic murmur. I would like very much to know whether that one observer was a polished old clinician or an eager person of lesser experience and greater imagination. It is an important point, and I gather not one that can be settled here, because it was not confirmed by other examiners. She was anemic, as indicated by a fall in the hematocrit from 40% to 33% when dehydration was corrected. The negative serologic test for syphilis is of importance when we are considering somebody with an aortic diastolic murmur. This is especially true here, because of what looks to me like a wide aorta on the x-rays, but we will discuss that in another minute. There was a lot of blood and protein in the urine. The blood chemistries were not particularly remarkable. And finally, the recovery of Salmonella from the stool plus one of three blood cultures means that we are undoubtedly dealing here with an acute, Salmonella septicemia. If it had been found in the stool alone, we would have to consider the possi-

bility of an un-related Salmonella stool-carrier state. With the organism in the blood as well, we can discard that possibility.

In reviewing this case, I discovered that the issues of the Index Medicus in recent years each contain nearly a full page of references to articles on the Salmonellae. This seems to be not due so much to a great clinical interest in Salmonella infections, but rather to the fact that these organisms are at the present time being extensively used in studies of bacterial genetics. The Salmonellae are extremely widespread infestors in the animal world. Virtually any animal you want to mention is infected with some kind of a Salmonella, of which there are roughly 200 varieties. There have been several outbreaks of Salmonella infections attributable to these little turtles which are sold in pet shops. The common sources are all of the domestic animals, and a substantial number of animals coming to slaughter houses are infected with these organisms. There was recently an outbreak attributable to eggs in a large New York hospital where I was a patient, and we were not allowed to have soft boiled eggs at that time. These reflections on epidemiology do not tell us how this lady came afoul of this particular organism, but obviously she did. In this part of the country there is frequently still a history of having obtained water from a well which is subsequently found to have been contaminated with animal excreta.

The type of Salmonella which this patient had, the typhimurium, is the second most common variety encountered as a cause of clinical disease after Salmonella typhosa. About a third of all isolations reported in a large survey in 1957 from the center in New York devoted to the study of these infections were typhimurium.[1] This agent falls in the paratyphoid B group, and there seems to be nothing especially characteristic of it in terms of virulence. All of these agents may produce either the gastroenteritis-food poisoning kind of clinical syndrome, or the more severe, typhoidal, septic disease with widespread abscess formation, or else the asymptomatic carrier state. In any case, the mortality in the 2,300 reported cases due to typhimurium was 4.1%, which was about the same for all of the Salmonella infections as a whole, which is not a high death rate, but is a substantial one. The Salmonella choleraesuis is said to be noted for producing abscesses and invasive disease with a greater frequency than the other types of Salmonella. In the whole series of 7,700 infections by these organisms there were 20 cases of bacterial endocarditis. Of these patients, 14 cases were due to choleraesuis and four were due to typhimurium, so the situation we are discussing is quite a rare one.

Another interesting, recent observation in this area has been made by Dr. Braude in Pittsburgh.[2] In a two-year period, with a total of 15 cases of Salmonellosis, all of the three patients with infection due to typhimurium also had Hodgkin's disease. The significance of this coincidence is uncertain, but it may tie in with some results in experimental Salmonella infections. Producing hemolysis and leaving the products of hemolysis in animals increases their susceptibility to these infections, which is not accomplished by simply making them anemic by other means. Also, mice are peculiarly susceptible to this strain of Salmonellae, apparently because they fail to recognize it immunologically as an outside invader and do not set up an antibody defense.

Let's return to this patient, and to her x-rays in particular. Dr. Keats, can you tell us about this lady's heart and thoracic aorta, specifically whether they may have been the site of focal involvement by an abscess or similar process?

Dr. Keats: The cardiac silhouette is enlarged and there is pleural effusion at the left base indicating cardiac failure. A triangular density is seen through the cardiac shadow which has the appearance of an atelectatic left lower lobe. (See Fig. 1.)

The entire thoracic aorta is dilated, and there is an irregular widening of the left mediastinal shadow just below the aortic

arch which may represent a localized aneurysm of the aorta. The possibility of a hilar mass as the cause of this widening can not be excluded on the basis of this examination.

Subsequent films add no additional information except for further evidence of congestive failure.

Dr. Hunter: We do know from the fluid removed from the left pleural cavity that she did not have an empyema there. Yet the fluid contained enough cells to be more than a transudate. The development later of left posterior chest pain, pleuropericardial rub, and tightness in the chest sound very much like the aorta and heart were becoming involved in some localized event. The terminal event only adds to my confusion on this point. We don't know whether the large quantity of bloody mucoid material in the emesis basin came from the respiratory or gastrointestinal tract. It sounds like something eroding into something else, but I don't know what.



Fig. 1. Radiograph with evidence of left pleural effusion and irregular widening of the mediastinum just below the aortic arch.

This can be put together in different ways. It could be Hodgkin's disease producing hilar node enlargement and the lesion in her left base, with the known, superimposed Salmonella septicemia. The terminal episode does not fit in with that, and sounds more like a vascular event. If this is an aneurysm, what kind of aneurysm could it be? There was not much pain to go along with aortic dissection. There is considerable evidence in favor of bacterial endocarditis of the aortic valve, with the infected emboli resulting in ecchymoses of the skin and infarcts of the kidneys. With that as a start, she could have a mycotic aneurysm of the aorta, which ruptured. This would be very fancy, and I couldn't find such a case in the literature. The time scale here doesn't satisfy me; it is too fast. One generally doesn't find mycotic aneurysms and rupture all within one month after the initial symptoms in bacterial endocarditis. Nevertheless, this varies with the invasiveness of the organism and it is not beyond the realm of possibility. I think she had an abscess or tumor in her left lower chest, which invaded a major blood vessel, causing rupture either into the esophagus or trachea as a terminal event. Undoubtedly she had Salmonella sepsis, quite possibly a bacterial endocarditis, and then maybe a mycotic aneurysm with rupture. I can't distinguish between these possibilities. Dr. Kunin, would you say a word about the therapy?

Dr. Kunin: The treatment of Salmonella infections continues to be a perplexing problem. The therapeutic value of chloramphenicol and ampicillin against S. typhosa is clearly established, but the carrier state is not prevented by either drug. Carriers require prolonged antimicrobial treatment followed by cholecystectomy in those with stones. Most other species of Salmonella are sensitive *in vitro* to chloramphenicol and ampicillin and fewer are sensitive to tetracyclines. Despite this, systemic therapy has been extremely disappointing in mild forms of Salmonellosis, particularly gastroenteritis. Thus, in one recent study of an epidemic of Salmonella typhimurium in children, antibiotic therapy was found to have no salutory effect on persistence of the organism in the stool and may have prolonged the carrier state despite use of drugs

to which the organism was sensitive *in vitro*.[3,4,5]

In the case under consideration, the severity of the patient's illness forced us to use what appeared to be the best known agents available; chloramphenicol and ampicillin. You have all seen the result, although it is not unlikely that therapy was begun too late to be effective. I would urge that in a case such as this, in adults, we use at least 1 gram of chloramphenicol and 0.5 gram of ampicillin every six hours and give them by the parenteral route to insure that the patient is actually receiving the drug.

Dr. Hunter's Diagnosis:

Salmonella septicemia with endocarditis of the aortic valve and terminal rupture of a mycotic aneurysm of a major vessel into either trachea or esophagus.

Pathological Discussion

Dr. Smith: This patient was known to be infected with Salmonella, and such is indelibly associated in our minds with typhoid

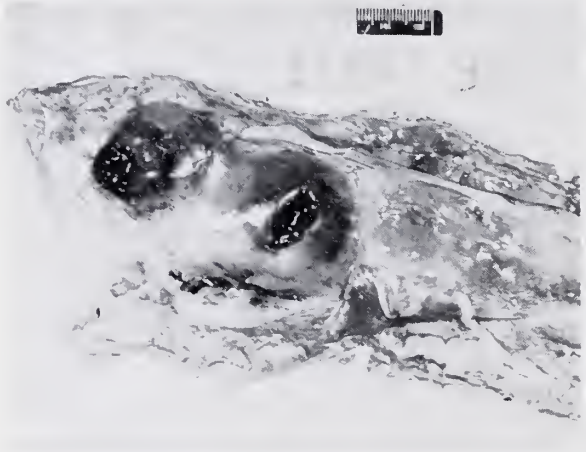


Fig. 2. Exterior of the descending aorta with two bulging hemorrhage-filled masses representing a mycotic aneurysm on the left and an intramural dissection to a terminal hematoma on the right. The incisions into these masses are artifactual.

fever. We were therefore particularly interested in the condition of the gastrointestinal tract, but were unsuccessful in detecting any abnormality either grossly or microscopically despite positive stool cultures both clinically and microscopically. In the liver on histologic section there were a few aggregates of macrophages which were reminiscent of the nodules one sees in typhoid fever, but the lymphoid tissue of the spleen and lymph nodes and gastrointestinal tract was not hyperplastic.

In the cardiovascular system, on the other hand, there was a very dramatic lesion. In Figure 2 there is illustrated the exterior of the descending thoracic aorta about 4 cm. below the left subclavian artery. This was just about the level that Dr. Keats illustrated on x-ray as the site of an irregular widening of the aorta. A bi-lobed, irregular, hemorrhagic swelling of the aortic wall was present. The defects in the illustration were artifactual and there was no hemorrhage from this lesion. From the intimal surface (Fig. 3) the lesion appeared as a mass of fibrin and thrombus overlying an aneurysmal sac about 3 cm. in diameter from which a hemorrhagic tract ran within the wall of the aorta for about 6 cm. distally ending in a hematoma within the wall.

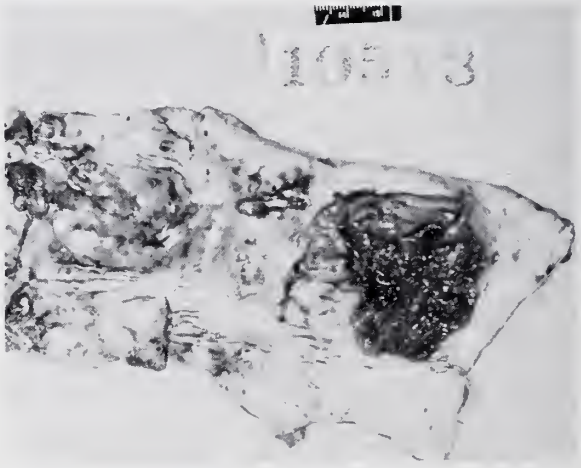


Fig. 3. The interior of the aorta with the opening of the mycotic aneurysm, covered with thrombus and not involved by a vegetation, on the right. To the left is seen the peculiar wrinkled scarring as well as the bulging of the intima over the distal dissection of the aneurysm.

This was obviously an aneurysm, but it did not rupture and cannot be correlated with the terminal observation of blood mucus interpreted as hematemesis.

The heart itself was not remarkable, there being only a moderate amount of atherosclerosis of the coronary arteries, no scar-

ring of the myocardium, and no vegetations on any valve. Immediately above the aortic valve, however, the aorta was dilated and

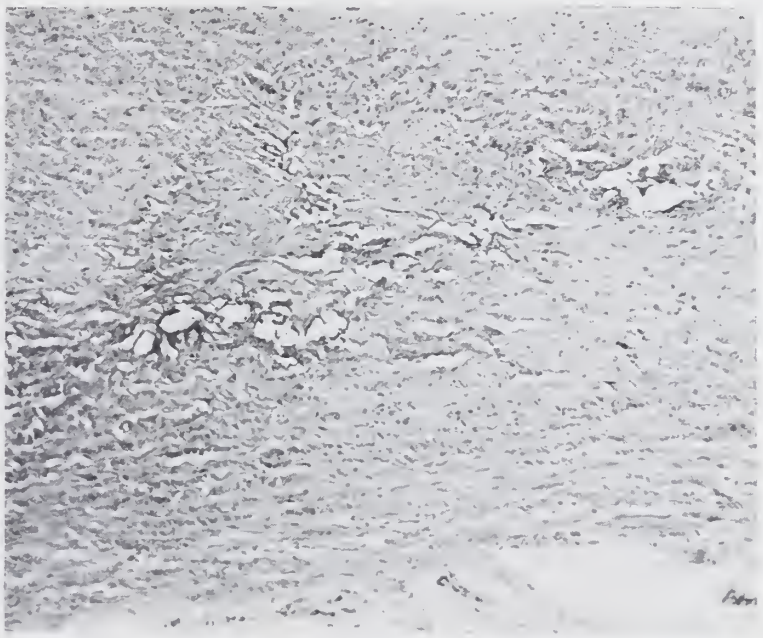


Fig. 4. Marked cystic medial necrosis and scarring of the aorta not involved by the aneurysm. (H&E stain, approx. 120X.)

there was a greyish folding of the intima that strongly suggested the appearance of

ing aorta was demonstrated to be due to a rather advanced degree of cystic medial necrosis with scarring. Sections of the various portions of the aneurysm in the descending aorta (Fig. 5) showed that it was



Fig. 5. Wall of the mycotic aneurysm with thrombus in the upper portion of the illustration. The structures of the aorta are almost completely destroyed and replaced by granulation tissue and cellular infiltration. (H&E stains, approx. 120X.)

syphilitic aortitis. On microscopic examination (Fig. 4) this scarring of the ascending

an inflammatory destruction of the wall of the aorta from which a hemorrhagic dissec-

tion extended within the media. This latter phenomena is illustrated in Figure 6 where the hemorrhage divides the media of the aorta at approximately the border between the outer and middle thirds in the characteristic manner of a true dissecting aneurysm. The upper portion of the lesion, or a mycotic aneurysm and a true dissecting aneurysm.

Other significant findings included a marked congestion of the liver and lungs, a small recent infarct in the right kidney that may well have accounted for the clinical episode of hematuria, and small throm-



Fig. 6. A portion of the aorta along the hemorrhagic dissecting tract. A wedge of blood extends from the left side and splits the media. The adventitia is in the lower portion of the illustration and the upper portion of the media is overlayed by scarring and atherosclerotic plaque. (H&E stain, approx. 60X.)

the mycotic aneurysm, was lined by granulation tissue that is undoubtedly of a number of days or weeks in age. We were successful in culturing the Salmonella typhimurium from the aneurysm; however, sections stained for bacteria have not shown any great numbers of organisms.

The unusual structure of this aneurysm was the result of two processes. There was first a rather unique, chronic type of severe cystic medial necrosis that resulted, if you will, in an aortitis that bore a superficial gross resemblance to that of syphilis. Onto this lesion was added an intramural infection with Salmonella that resulted in the development of a mycotic aneurysm, and from the mycotic aneurysm there was a hemorrhagic dissection for a short distance. The lesion, therefore, combines features of

bi in the pulmonary arteries. The latter may have been a trigger for a terminal coughing fit followed by cardiac standstill in this patient with evidence of congestive failure. Because we have neither a clinical account of this patient's death nor anatomic evidence of an acute terminal event, we can only speculate that was the actual mode of exodus.

So, Dr. Hunter, this patient presents a very interesting example of infection with Salmonella typhimurium which has resulted in an abscess-like lesion in the wall of the descending aorta that I would call a mycotic aneurysm. There was reported recently a case[6] that claims to be the first of a ruptured thoracic mycotic aneurysm due to Salmonella. Included with this report is a summary of about 26 other cases of mycotic

aneurysms in large arteries that have been reported in the literature. The authors carefully distinguish between mycotic aneurysms due to a true infection of the aortic wall and infection of a pre-existing atherosclerotic aneurysm or the incidental presence of an uninfected atherosclerotic aneurysm in a person with a Salmonella bacteremia. Among the rare cases of true mycotic aneurysms, Salmonella typhimurium is a common etiologic organism, probably because of its greater relative frequency in all salmonellosis. Salmonella choleraesius is interestingly represented in the cases of aneurysm out of proportion to its general incidence. This reflects a peculiar and not-understood propensity of that organism for forming locally destructive lesions affecting the cardiovascular system.[7]

Student: Do you think this lesion was an endaortitis with spread into the wall of the vessel or did it appear to arise from within the vessel wall itself?

Dr. Smith: From the general configuration of the aneurysmal mouth opening into the aorta, covered by thrombus and not surrounded by vegetation, I think that this was primarily a focus set up by organisms carried into the wall of the aorta in the vasa vasorum, a sort of embolic process in the presence of the septicemia. It would seem most likely that the organisms reached the blood stream from a gastrointestinal portal of entry, or even from the gallbladder, but we were unsuccessful in recognizing any persistent evidence of infection at such sites. I have been particularly intrigued with the evidence of previous disease in this aorta, chromotropic cystic degeneration, that may well have had a good deal to do with this rare lesion having developed.

ANATOMICAL DIAGNOSIS:

Cystic medial necrosis and scarring of the aorta; mycotic aneurysm with distal intramural dissection in the descending thoracic aorta (Salmonella typhimurium isolated from blood and stool during life and from intestine and aneurysm postmortem); chronic passive congestion of the liver and lungs; thrombi in small terminal pulmonary arteries.

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Letters to the Editor....

A Voice of Dissent.

The following letters were sent to Dr. Donelson and to the Editor:

Dear Doctor Donelson:

I want to congratulate you for the courage and honesty expressed in the guest editorial that you published in the Virginia Medical Monthly of October, 1966. Aside from the fact that I am a believer in social security and medicare, I believe, too, that these reforms have been made with the approval of the majority of the American citizens and not, as the editors of the Virginia Monthly indicate, in the footnote that appears following your editorial.

Should you and I be in a minority dissenting group, the publishers of the Virginia Medical Monthly must be congratulated for the space conceded to your writing.

JULIO H. GARCIA, M.D.

To The Editor:

Congratulations to you for publishing Dr. Donelson's guest editorial "A Voice of Dissent" in the October 1966 issue of the Virginia Medical Monthly. Most American medical journals have closed their editorial pages to dissenting voices too long. Many of us find ourselves in general agreement with Dr. Donelson. I am glad that you gave him an opportunity to present his views.

JOHN L. GUERRANT, M.D.,
Department of Internal Medicine
University of Virginia,
School of Medicine

Editor's Note: The above letter by Dr. Julio H. Garcia, a member of the Department of Pathology of the Medical College of Virginia, is reprinted as received from Dr. Garcia. The statement that the writer believes "that these reforms have been made with the approval of the majority of the American citizens and not" . . . etc., doubtless refers to that part of the footnote which stated that the "Publication Committee does not believe Dr. Donelson's views . . . are shared by a large segment of the *physicians in Virginia.*"

Clinical Center Study of Hodgkin's Disease

The cooperation of physicians is requested in a continuing study of Hodgkin's disease being conducted by the National Cancer Institute at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Particularly desired are patients who have had no previous treatment or minimal prior treatment. All clinical stages of biopsy-proven disease are acceptable. The major purpose of the study is to determine the curative potential of intensive radiotherapy in localized cases and to evaluate combination chemotherapy and X-irradiation in patients with generalized involvement.

Physicians interested in having their parents considered for the study may phone or write to: Paul P. Carbone, M.D., The Clinical Center, National Institutes of Health, Building 10—Room 12-N-228, Bethesda, Maryland 20014. Telephone: 656-4000, Ext. 64251 (Area code 301)

Diagnostic Laboratory Medicine . . . .

Bacteremia Due to Gram-Negative Bacilli

The increasing incidence of bacteremia due to gram-negative bacilli has been pointed out recently. The present is a review based on 303 cases of bacteremia due to gram-negative bacilli encountered at the Mayo Clinic from 1940 to 1961. In this study E. coli was the commonest organism found, accounting for approximately half of the infections. E. coli and Aerobacter aerogenes, considered together as the coli-aerogenes group, were responsible for two-thirds of the cases. In recent years, Pseudomonas has replaced Proteus as the third most commonly encountered organism; after Proteus comes Bacteroides. Less frequently found organisms include Salmonella, Shigella, Hemophilus, Klebsiella, Paracolobactrum, Achromobacter and Alcaligenes. The increased frequency of Pseudomonas infections may partly reflect resistance of this organism to most antimicrobial agents allowing them to emerge as the predominant bacillus after eradiction of more susceptible bacteria. Multiple other factors, such as the prolongation of life of patients with weakened defenses, contribute to the increased frequency of these infections.

Gram-negative bacteremia affects men twice as frequently as women and 70% of the patients were 50 years of age or older. The portal of entry was the urinary tract in almost 50% of the cases, followed by biliary tract in 10%, the remainder of the G.I. tract 15%, female genital tract in 5%, in another 5% other sources (skin, post-operative wounds or respiratory tract). In about 15% the source was undetermined or inapparent. In the case of bacteroides the portal of entry was the G.I. tract in 70% and G.U. tract in 20%.

Nidi of infection (pyelonephritis, cholangitis, etc.) may be the origin of gram-negative bacteremia. Noninfectious diseases play an important role in the establishment of gram-negative bacteremia, i.e.: complications of arteriosclerosis, malignant neoplasms and hematologic diseases. Diabetes mellitus was encountered in 10% of the 303 cases. The portal of entry in these patients was almost always urinary. Various forms of therapy may precipitate or predispose to bacteremia. Transurethral resection was the leading operation followed by gram-negative bacteremia, especially coli-aeorgenes organisms. Among G.I. operations, in order of decreasing incidence: biliary tract, intestines and stomach. In 20% of the patients in the present study prior to antibacterial therapy (penicillin most commonly) appeared to have been a factor in the genesis of the bacteremia.

Clinical Features

Fever, usually of spiking nature, was present in 98% of the cases. The onset of bacteremia was manifested by fever and chills in 60% of the patients. Bacteremic shock opened the picture in 20% of the cases. Headache, sweating, myalgia, hyperventilation, restlessness and agitation were also frequent. Leukocytosis with neutrophilia was usually present; of interest was the exception of Pseudomonas which caused some cases of leukopenia and thrombocytopenia (the paradox of Pseudomonas septicemia). Many other clinical features were present but were largely due to the underlying disease.

Certain clinical features may arouse suspicion that the causative agent is Pseudomonas. One feature is the skin lesions, most commonly seen in the anogenital regions and axillae and referred to as ecthyma gangrenosum. Another feature is leukopenia, which occurred in 5% of the 303 cases. Petechiae, jaundice and rarely bluish-green discoloration of the nail beds may

characterize Pseudomonas bacteremia. An unexpected delay in clinical response to an appropriate antibacterial regimen should suggest a locus of suppuration.

Complications

Gram-negative shock developed in 59% of the patients. Vascular collapse associated with bacteremia can be masked by the physical signs of the septic process and many times the only early sign of this serious complication is hypotension. Metastatic suppuration may occur, typically in the case of bacteroides, requiring drainage. Superinfections do occur after control of the original infection. In 5% of the cases gram-positive coccal infections developed.

Therapeutic Considerations

Some principles of management of patients having bacteremia are as follows:

1. Close scrutiny of likely victims, since prompt detection and treatment considerably decreased the mortality rate.
2. Procurement of blood for adequate microbiologic study.
3. Initiation of empiric treatment if the condition of the patient warrants.
4. Reevaluation if results of cultures and *in vitro* bacterial susceptibility tests later indicate a poor choice of antimicrobial regimen but continuation of the empiric regimen if the patient is doing well.
5. Administration of the drug or drugs in adequate dosage for a sufficient time.
6. Correction of any condition predisposing to the infection or complicating it.

Combined antibiotic therapy with a tetracycline and streptomycin or chloramphenicol and kanamycin has been the regimen employed most frequently in the empiric management of bacteremia due to gram-negative bacilli. When the patient has not made satisfactory progress on a given regimen for 12 to 24 hours and the results of microbiologic studies remain unreported, the regimen is changed empirically. In such cases in addition to the two regimens mentioned, polymyxin B or colistin may be considered.

Results Related to *In Vitro* Susceptibility Tests

As stated before, the therapy in patients with gram-negative bacteremia is initiated empirically to be changed only in case the patient is not improving and the report of the cultures shows a certain specific organism well known to be sensitive to a different antibiotic.

Bacterial susceptibility tests were performed by the tube-broth or cup-plate dilution methods and the results are as follows:

E. Coli—70% of strains sensitive to streptomycin, 75% of strains sensitive to tetracycline. Combination of these drugs in strains sensitive to them gave a remarkable reduction in the mortality.

A. Aerogenes—Only 40% of strains were sensitive to streptomycin and 20% to tetracycline.

Proteus—Only 20% of the strains were sensitive to streptomycin and 10% to tetracycline. If the patient did not have an underlying disease that caused death, recovery ensued on tetracycline-streptomycin therapy, regardless of the *in vitro* findings.

Pseudomonas—All strains were sensitive to polymyxin B as evidenced by the *in vitro* susceptibility; however, no clinical cure is obtained in those cases in which the underlying disease is advanced neoplastic, hematologic or renal disease.

Bacteroides—All strains were sensitive to tetracycline and chloramphenicol. Streptomycin is unnecessary, and therefore the drug of choice is tetracycline.

Salmonella—All strains were sensitive

to tetracycline and chloramphenicol and 80% of them were resistant to streptomycin.

In the case of bacteremias due to coli-aerogenes and Proteus organisms combined therapy rather than a single antimicrobial drug renders a lower mortality rate.

Antibacterial Regimens

Empiric administration of streptomycin and a tetracycline (or chloramphenicol and kanamycin) appears preferable in view of the time it takes to obtain results from cultures. Also the benefit is greater when bactericidal drugs (streptomycin or kanamycin) are used, as opposed to the bacteriostatic action of the tetracyclines and chloramphenicol. A tetracycline is preferred over chloramphenicol because of the possibility of the latter causing bone marrow depression, and streptomycin over kanamycin because this may be more likely to cause deafness.

Disadvantages of combined antibiotic therapy include depression of the gram-negative flora, thereby enhancing superinfection as well as different toxic effects of multiple drugs. Occasionally although the empiric therapy is sufficient to prevent death, the response is incomplete, then microbiologic data may indicate the use of a single agent. Single agents with possible application against certain gram-negative bacilli include (1) Polymyxin B or colistin in Pseudomonas infections; (2) Penicillin or novobiocin in Proteus mirabilis bacteremia; (3) Chloramphenicol in salmonellosis, and (4) Chloramphenicol or sometimes erythromycin in Hemophilus infections.

The following are some of the antibacterial agents of potential application:

CEPHALOTHIN (Keflin) has efficacy against many gram-negative bacilli and has to be given I.M. for systemic effects.

NALIDIXIC ACID (NegGram) suggested in Proteus bacteremia, intravenously.

GENTAMICIN (Garymycin) said to be more effective than neomycin or kanamycin against strains of Pseudomonas.

In general the duration of therapy in gram-negative bacteremias should be until the patient has been afebrile for 72 hours and three successive blood cultures have been negative. Bacteroides is a more difficult problem and requires more time.

Adjunctive Therapy

The usual supportive measures should be administered to a patient with gram-negative bacteremia. An operation might be necessary to drain a primary or metastatic site of infection.

The antishock therapy varies according to different authors, and the question of use of vasodilators rather than vasopressors is now being considered. Proponents of the use of sympathetic (adrenergic) blocking agents point out that findings such as pallor, sweating and tachycardia are signs of vasoconstriction and overactivity of the sympathetic nervous system. They theorize that dilation of blood vessels, rather than further constriction by vasopressors, is required to promote blood flow to vital organs; phenoxibenzamine (dibenzylene) has been recommended. The purpose of the therapy is to raise the systolic blood pressure to more than 100 mm. of mercury in a previously normotensive patient, and also to restore the renal circulation before the ischemia has damaged the kidneys.

Some authors advocate the use of adrenocortical hormones in gram-negative bacteremic shock although it has been proved that these patients do not show abnormality of the secretory function of the adrenal gland.

REFERENCE

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Public Health . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Planning New Medical Programs

I. Title XIX

Title XIX *is* socialized medicine; why quibble about it. Medical care for the needy has been socialized for many years.

If a person is unable to pay for his medical care, his fellow man has two choices: first, to ignore or neglect his needs; and, second, to offer him assistance. When assistance is offered, it is generally socialized assistance, whether through a gift to a voluntary agency or through the tax dollar administered by elected representatives.

Over the years there have been certain other groups, not necessarily needy, who have received socialized medical care. Socialized care is provided to these groups when it is not feasible or possible to provide the care through the free enterprise system, and when it is necessary to protect the public's health. Examples of this are mental patients, for whom total care does not lend itself to the free enterprise system, and patients with communicable diseases, such as tuberculosis, for whom care must be provided to protect the public's health.

The medical profession generally has accepted socialized care for communicable and mental diseases. Such programs have never been accepted, however, until the problem has become a public one and private efforts have failed to solve it.

To help us accept the reality that there is nothing new or radically different in the basic concept of Title XIX, consider this fact: In the State of Virginia today approximately $12 million is being spent yearly on medical care for welfare recipients. And, may I add parenthetically, many physicians, and certainly most nursing home and hospital administrators, consider this $12 million an inadequate payment for the services rendered.

This $12 million includes the State and Local Hospitalization Program and Medical Assistance to the Aged (Kerr-Mills). It does not include, however, the amount spent by the State Health Department for the clinics operated by the local health departments or for hospitalization under the Crippled Children and Maternal and Child Health Programs. It does not include the amounts spent for the operation of outpatient clinics in the various general hospitals in the State or by the two State-supported medical schools. And, needless to say, it does not include the amounts spent by the voluntary health organizations. The State of Virginia, therefore, is already in the business of medical care for the needy, in a big way.

The basic concept of Title XIX is comprehensive care for the needy. It will do no more than is already permissible under old laws and/or programs, but it will consolidate under one heading and with a uniform appropriation the many categories of care now being approached in variable ways.

What *is* new about Title XIX is the greater shift to Federal responsibility and a tendency, at least in some states, to make a rather liberal interpretation of the "needy".

General Provisions

If a state elects to provide a medical assistance program under Title XIX, the following general provisions prevail:

1. Medical care *must* be made available to all individuals receiving money payments under the following welfare programs:

   Aid to the Blind

Aid to the Permanently and Totally Disabled
Old Age Assistance
Aid to Families with Dependent Children

2. In addition, medical care *may* be provided to the medically-indigent aged not on cash assistance roles (a group similar to that presently covered by Kerr-Mills). However, if the medically-indigent aged are included, then a comparable group must be included for those who, except for income, would qualify under the groups listed above.
3. The option of providing comprehensive medical care for all medically-needy children under 21 is also provided. Families of these children need not be receiving public assistance. Generally speaking, they will fall into the group which earns enough for food, clothing, and lodging but not enough to provide comprehensive medical care for their children.
4. If a program for the medically-indigent is included, the states must have a flexible income test which takes into account medical expenses and does not have rigid income standards which arbitrarily deny assistance to persons with large medical bills.
5. Minimum services *must* include: inpatient hospital care; outpatient hospital care; skilled nursing home services for persons over 21; laboratory and x-ray services; and physician services.
6. Optional services include: dental care: prescribed drugs; home health services; physical therapy services, etc.
7. Services must be the same in scope, duration, and amount for each group included.
8. Federal matching money will be available on the following basis: 50% for administration; 75% for professional medical staff; and, in Virginia, approximating 65.85% for direct services to patients.
9. State matching money may be provided in full by the state or in combination with the localities. If local monies are used, they must be equally distributed, or the state must provide for equal distribution. In other words, identical services must be provided for citizens from all areas of the state and may not be limited by the locality's ability or willingness to share.
10. A single state agency must be named by the governor for the administration of the program, but determination of eligibility must be made by the State Department of Welfare.
11. The state agency must cooperate with other health and vocational rehabilitation agencies in the program provided.
12. The state agency must establish standards and maintain quality of care.
13. The new program can be effective no later than January 1, 1970. At that time the present Kerr-Mills program and all vendor payments for medical services for recipients of categorical welfare programs will cease.

Planning in Virginia

In October, 1965, Governor A. S. Harrison, Jr., appointed an Advisory Committee on Medicare to consider all aspects of the Social Security Amendments of 1965. In December, 1965, on the recommendation of the Advisory Committee, he designated the State Department of Health as the state agency to administer Title XIX.

In April, 1966, Governor Mills E. Godwin, Jr., asked the committee to continue in being and it is, therefore, this committee which is charged with the responsibility of devising the medical assistance program for Virginia. Committee members and their respective representations are as follows:

The Medical Society of Virginia:

Dr. Russell V. Buxton
Dr. William Grossmann
Dr. Alexander McCausland

Virginia Hospital Service Association:

Mr. Charles P. Cardwell, Jr.

Virginia Medical Service Association:

Mr. William H. King

Virginia State Hospital Association:

Mr. Harold Prather

Virginia State Dental Association:

Dr. Jason Lewis

Private Insurance Carriers:

Mr. Harley Duane
Mr. John L. Tuttle

The Two State-Supported Medical Schools:

Dr. Kinloch Nelson

Virginia Nursing Home Association:

Mr. Robert L. Gordon

The committee and the staff of the Health Department are actively at work now, and it is the committee's intention to utilize consultants in specialized areas as the need arises. The present plan of operation calls for the final draft of the plan to be completed in the spring of 1967, in time to be incorporated in the Health Department's budget request for 1968-70. The budget must be completed about six months prior to the meeting of the 1968 General Assembly.

If the plan is approved by the General Assembly and the necessary funds are appropriated, the program will be put into effect on July 1, 1968.

Major Problems

There are three major problems confronting the committee. These are: (1) the development of a reasonable definition of medical indigency or "needy;" (2) the determination of the scope of services to be provided; and (3) the establishment of a method to uphold quality of care.

As prescribed in the law, the definition of medical indigency cannot be based on an arbitrary income figure. We all know that income, cost of living, cost of medical care, etc., can vary greatly from one area to another, and this has been reflected in the programs already in operation in other states. California has begun with an income level of $3,800 for a family of four; Minnesota has set $2,800; Hawaii, $3,000; Maryland, $3,120; and Oklahoma, $2,448.

The five major services which must be provided have been described earlier. The committee must decide whether or not to recommend the inclusion of any of the optional services.

Under the law, the states are required to include in the state plan a description of the standards and methods which will be used to obtain high quality medical care, as well as a method for continuous evaluation. Several states are using advisory committees to provide advice from professional representatives as well as other knowledgeable citizens.

Conclusion

Of necessity this has had to be a brief, rather general, report on the status of the Title XIX program. It is written in an attempt to keep the medical profession informed on planning in Virginia.

Title XIX is designed to insure that the medical needy receive the quality and scope of medical care that is available to the general public. It consolidates and updates various old laws and medical care programs into one heading under a single appropriation.

In Virginia the planning is being done by the Governor's Advisory Committee on Medicare in cooperation with the staff of the State Department of Health. The committee includes representatives from The Medical Society of Virginia.

We in the State Department of Health are proud of the present working arrange-

ments with the physicians and hospitals in the State and our close ties with The Medical Society of Virginia, and we intend to continue to utilize and develop these cooperative arrangements in all new health programs. It is our job to devise a plan which is workable for Virginia. It is the responsibility of the practicing physicians to carry it out in the best traditions of our State.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Oct. 1966	Oct. 1965	Jan.-Oct. 1966	Jan.-Oct. 1965
Brucellosis	10	1	25	17
Diphtheria	0	0	0	0
Hepatitis	46	81	481	512
Measles	34	54	3099	4325
Meningococcal Infections	9	6	68	58
Meningitis (Aseptic)	4	3	29	13
Poliomyelitis	0	0	0	0
Rabies (In animals)	14	11	288	295
Rocky Mt. Spotted Fever	1	2	32	41
Streptococcal Infections	934	777	10528	9416
Tularemia	0	0	0	0
Typhoid Fever	3	0	13	8

Mental Health . . . .

C. A. WHARTON, JR.

Progress on Implementation of Recommendations of the Virginia Mental Health Study Commission

Just over one year ago, on June 30, 1965, the Virginia Mental Health Study Commission completed its assigned tasks, and, with the rendition of its report and the expiration of the Federal Grant under which it worked, was disbanded.

It therefore seems appropriate to review what has been done in the intervening months in the Commonwealth to implement the Recommendations of the Commission rendered to the State Mental Health Authority.

Two of the most basic recommendations were implemented by the Department of Mental Hygiene and Hospitals almost immediately upon the receipt of the report. Action taken thereon included the assumption by the Department of the basic responsibility for carrying out and implementing most of the recommendations and for coordinating with other Departments involved. In addition, on 1 July 1965, a new Division of Planning, as recommended, was formed within the Department.

Four of the major legislative programs of the Department submitted to the 1966 General Assembly were directly responsive to the Commission's recommendations. These included: (1) action toward accreditation of all State Hospitals by the JCAH; (2) provision of an expanded Aftercare Program; (3) extension of and increased financial support for the Mental Hygiene Clinic System, and (4) a review and recodification of the laws relating to mental illness and mental retardation. All of these programs were well received and supported by the Assembly. Requested capital outlay funds were also provided for improvements to existing installations which will have an overall bearing on eventual accreditation. Further, the Assembly provided planning funds to the Department for a new 500 bed residential mental retardation institution to be located in Northern Virginia and some $325,000 to the Norfolk Area Medical Center Authority to be utilized as partial matching funds under PL 88-164 for the construction of a Comprehensive Community Mental Center in the Norfolk area.

As a result of these General Assembly actions, the Department is taking the following steps.

Inspections are currently being made by qualified departmental personnel of all State Mental Hospitals, utilizing current accreditation standards as a guide, to the end that apparent deficiencies may be determined and corrections thereof made a part of the Department's program of development and improvement at these hospitals. A report on accreditation needs is expected early next year.

The aftercare program is being aggressively pursued by the Department. Procurement of additional authorized psychiatric social workers for the program is under way, and a cooperative program is under development with the State Department of Health whereby services will be made available through local and regional Health Departments in those areas where Mental Hygiene Clinics are not available or adequate to handle the task.

With increased support at both local and state levels the mental hygiene clinic program shows signs of development and ex-

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

pansion. Many new positions have been created in existing clinics and two new clinics, one at Clifton Forge and one at Harrisonburg, have been placed in operation.

As has been true in the past, the procurement of qualified personnel in all branches of the Department continues to present problems. However, since the rendition of the Commission's Report, salaries at all levels for both professional and nonprofessional employees have been raised and are basically competitive with those of neighboring states. The Department, under its Directors of Nursing. Psychology and Social Work is continuing its efforts to develop and conduct additional and improved in-service training programs in these fields.

The Commission's concern with rehabilitative programs has resulted in the creation at Departmental level of a Division of Vocational Rehabilitation under the direction of A. Ray Dawson, M.D. Close liaison and cooperation with the State Department of Vocational Rehabilitation has been assured by interdepartmental agreements. Initial programs will concentrate mainly in state hospitals with programs such as the CHAP development at Central State Hospital. However, increased liaison and coordination with local rehabilitation offices has also resulted from the creation of this new departmental office.

A primary concern of the Mental Health Study Commission was the development of mental health services at the local level, leading toward the provision of Comprehensive Community Mental Health Services. Recommendations in this regard included programs designed to increase public awareness and acceptance of mental illness, to improve coordination and communication among existing services, to develop local needed services and, where practicable, to create Comprehensive Community Mental Health Centers.

In some local areas, citizens' groups have been voluntarily formed to advance the cause of Mental Health. The Virginia Association for Mental Health and its individual chapters have also cooperated fully in stimulating local interest. The Department is now considering ways and means to develop this support state-wide to insure continued "grass roots" liaison and assistance in programs which was so forthcoming during the study. Many areas have recently requested information and consultation on the development of Mental Hygiene Clinics or other services. Each request is followed through and assistance in planning afforded at the earliest opportunity.

The development of Comprehensive Community Mental Health Centers is proceeding at a gratifying pace, considering the newness of the program and the range of services required. The Department of Health, which has responsibility for the administration of Construction Funds under PL 88-164, has completed and had approved its basic State Construction Plan. During the first year of this program 92 applications for matching funds were approved by the Federal authorities for the 50 states. Two projects for Virginia were approved: those of Riverside General Hospital in Newport News and the Atlantic Mental Hygiene Clinic in Virginia Beach. All Federal funds available to Virginia through FY 1966 were committed in these two projects. At least five other areas in the state have evidenced interest in the development of a center and have requested consultation and assistance in planning.

One program which has received little interest at the local levels is that which provides Federal assistance to communities through matching funding grants for salaries of professional mental health personnel. This program resulted from recent amendments to the Mental Health Centers Act of 1963 and may be utilized either in conjunction with new construction applications or without construction plans by providing from existing services in the community that range of services required by PL 88-164. These grants are direct grants from the Federal government to a commu-

nity applicant and applications are made directly to the National Institute of Mental Health with copies to the Department of Mental Hygiene and Hospitals which is required to certify the need and applicability to overall State planning.

The Commission also made various recommendations concerning education and other programs coming under the purview of other departments of the State. Many of these have been considered and acted upon by these other departments.

The above accomplishments have been impressive, considering the short time available for action on what, in many instances, will require long term planning to achieve maximum results. However, much remains to be done to implement other of the recommendations of the Commission. Many of these must, by their very nature, depend upon action at the local level. Continuation of the success of some of the programs mentioned above will result only if they are continually backed by the individuals, organizations and local governmental bodies in the areas concerned. There is no time for complacency if Virginia is to provide the best possible care to the mentally ill, emotionally disturbed and the mentally retarded.

Appendicitis in the Elderly

For those over 60, acute appendicitis can be a special threat. An elderly person's diseased appendix tends to perforate easily, often leading to serious complications from infection. Elderly death rates are much higher than average for appendicitis, otherwise considered a routine ailment. Prompt exploratory surgery is the best way to counteract this threat, says an article in the September 5th Journal of the American Medical Association.

Twenty-eight consecutive cases of acute appendicitis in patients aged 60 to 91 were reviewed by the authors, two physicians at Peter Bent Brigham Hospital and the Veterans Administration Hospital, West Roxbury, Mass. They found the appendix had perforated in 17 of 21 patients operated upon more than 24 hours after the first symptoms of illness. Only one of six patients suffered a ruptured appendix when operated upon less than 24 hours after the onset of symptoms.

A striking reduction in the death rate was noted (2 of 28 patients, or 7 per cent), compared to a 28 per cent death rate among elderly appendicitis victims studied 30 years earlier at Peter Bent Brigham Hospital. Part of the reduction is apparently due to antibiotics now available, and partly due to improved patient care. Thirty years ago, there was a "remarkably high" rate of appendix perforation (82 per cent in the study cited). This was most likely due to delaying of surgery.

Older people sometimes put off seeking treatment. Many live alone, removed from friends and relatives who might otherwise urge them to seek medical advice. Still others have fixed ideas about the diagnosis of their illness, and even about the proper way to treat it. All these things add to the hazards of appendicitis when it strikes the elderly.

The authors are Arnold G. Coran, M.D., and H. Brownell Wheeler, M.D.

The Medical Society of Virginia . . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. Alexander McCausland, President, at 10:00 A.M. on Sunday, October 2, 1966, at Society Headquarters. Attending were: Dr. K. K. Wallace, Dr. McLemore Birdsong, Dr. Hunter H. McGuire, Jr., Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. W. Callier Salley, Dr. F. Ashton Carmines, Dr. Mallory S. Andrews, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. Nash Thompson, Dr. Harry B. Stone, Jr., Dr. Dennis P. McCarthy, Dr. W. W. Walton and Dr. Michael A. Puzak. Also attending were: Dr. William Grossmann, 3rd Vice-President; Dr. Thomas S. Edwards, Vice-Speaker of the House; Dr. W. Linwood Ball and Dr. Allen Barker, Delegates to the American Medical Association; Dr. Hiram Davis, Commissioner of Mental Hygiene and Hospitals; Dr. Kinloch Nelson, Dean, Medical College of Virginia; Dr. Russell M. Cox, Secretary-Treasurer of the State Board of Medical Examiners; and Mr. William Miller, attorney for the Society.

Dr. McCausland announced the deaths of Dr. E. G. Gill, Roanoke, and Dr. Thomas K. McKee, Saltville. Dr. McKee was Physician of the Year in Virginia in 1954.

Council then took note of the untimely deaths of two of its former members—Dr. Benjamin W. Rawles, Jr., Richmond, and Dr. James Willis, Fredericksburg. A moment of silence was observed in their memory.

Mention was made of the sales tax problem many physicians are facing today, and the President announced that the Special Committee on Pharmacy was working closely with Mr. Duval and Mr. Miller in an effort to find acceptable solutions.

An announcement was made that the additional appropriation requested by VaMPAC had been made. It was recalled that Council had been polled on the matter.

The president then read a letter announcing the appointment of Dr. Guy Harrison as a consultant to the Virginia Medical Service Association (Blue Shield) in matters relating to oral surgery.

Dr. Hiram Davis, Commissioner of Mental Hygiene and Hospitals, was recognized and requested to bring Council up to date on matters affecting our State Hospitals. Dr. Davis reported that the State Hospital Board sincerely believed that the freedom of choice approach complies with the requirements of Title VI, and is certainly the logical approach in Virginia. He brought out the fact that 92% of all patients in State Hospitals are legally committed, and every effort is made to assure them freedom of choice. If the patient is not able to make the choice, the family is afforded that opportunity. At the present time, representatives of the Department of Health, Education and Welfare are conducting a survey of our State Hospitals for the purpose of reaching a final decision on the matter of compliance. Dr. Davis stressed that the representatives have been most cooperative and that all sessions have been conducted on the highest plane.

It was pointed out that the majority of Virginia's Negro population resides in the eastern part of the State, and that a geographic plan to achieve racial balance in the hospitals would not be successful. The proposed transfer of patients has many obvious disadvantages, and is definitely opposed. This holds true also for a proposed transfer of employees. Such transfers could only serve to aggravate a problem of great concern.

Dr. Davis went on to say that the Hospital Board will stand firm on its present position, and is awaiting the results of the meetings now in progress. He stated that no complaints against the Board's position have been received from any Civil Rights organization, and that most of the letters which have come in thus far have shown an understanding of the problem.

There was general agreement that the Board has handled a difficult situation well, and pleasure was expressed that it has held firm and will continue to stand on its position.

Title XIX of Public Law 89-97 (Medicare) then came in for its share of attention. This section is so far-reaching that the AMA House of Delegates has seen fit to ask state medical societies to maintain constant vigilance in order to eliminate any patterns which might subvert the intent of the Law.

Dr. Shanholtz stated that the Department of Health, which is responsible for the administration of Title XIX in Virginia, wants very much for its policy to be the same as that of The Medical Society of Virginia. He indicated that this is in many ways a "must", and that every effort will be made to make

sure that both groups are always in agreement. He went on to point out that, although many states have rushed to get programs in operation, Virginia has elected to move in a more deliberate manner and, consequently, develop a sound, workable, and acceptable program.

Dr. Shanholtz called on Dr. James B. Kenley, Director, Division of Medical and Hospital Services, to explain briefly what is actually involved in planning for the implementation of Title XIX. Dr. Kenley indicated that the vendor method of payment will be used, and that the program will be concerned with two main categories—the "Categorically Needy" and the "Medically Needy". Those covered under the former would be the blind, dependent children, permanently and totally disabled, etc. Minimum services must include some in-patient and out-patient hospital care, physician's services, laboratory and x-ray services and skilled nursing home care. Brought out also was the fact that services provided the "Categorically Needy" cannot be less than those provided the "Medically Needy".

The discussion of cost revealed that the federal government will pay 66% of the program in Virginia (medical aspects). In addition, federal funds are also available to help defray administrative costs and the cost of training and compensation of professional personnel for state or local staffs.

Dr. Kenley stated that the big job faced by the Department is the determination of just who should be covered and criteria for eligibility.

These two factors, along with the scope of services to be provided, will determine just how much the program will cost in Virginia. It was learned that twelve million dollars is now being spent by the Department of Welfare in connection with its various public assistance categories. Pointed out also was the fact that 2% of Virginia's 4,500,000 population can be expected to fall within the "Categorically Needy" classification. It was both interesting and surprising to learn that under present MAA eligibility standards, approximately one million Virginians would be eligible for assistance under Title XIX.

A question was raised concerning the responsibility of the Department of Welfare under Title XIX, and it was learned that the Department will continue to take care of all nonmedical needs.

Another question was raised concerning whether assignments are required under Part B of Medicare when welfare patients are involved. It was stated emphatically that assignments are not required.

Dr. Edwards stated that some areas of the State are obviously not ready to provide extended care or home care services. It was agreed that this is a definite problem, but that no answer is available at this time.

Dr. Cox was then called on to brief Council on problems which might well result from the recently enacted law regulating clinical psychologists. There would now appear to be some very definite defects in the law, and loopholes by which the practice of clinical psychology can actually be carried on by one licensed as a psychologist only. Any new clinical psychologists can now be examined and licensed as psychologists rather than clinical psychologists, and thereby remain outside the control of the Board of Medical Examiners. Only those clinical psychologists previously licensed by Dr. Davis can now be readily identified. Dr. Cox expressed the opinion that this dangerous situation can only be corrected by legislative action when the General Assembly convenes in 1968.

Dr. Wallace then discussed the Joint Screening Panel on Medical Malpractice Cases and the question of unilateral hearings. It was recalled that the House of Delegates last year amended the Joint Medico-Legal Plan in such manner as to make unilateral hearings possible. He traced the development of the Plan and pointed out that, despite carefully drawn guidelines, it had never realized its potential. It was known that some insurance carriers objected to the Panel, and an effort was made to find out exactly why. Dr. Wallace stated that he had conferred with many people, including attorneys from several sections of the state. He learned that some insurance attorneys prefer the informal local committee approach, and feel that when a Panel decision goes against the physician, it immediately increases the cost of settlement. Another complaint heard was that an adverse decision by the Panel does not deter the plaintiff from going ahead with a suit should he so wish.

Dr. Wallace went on to point out that members of the Panel representing The Medical Society of Virginia are most enthusiastic and convinced that the unilateral feature is quite justified. It was learned that no case heard by the Panel has ever gone to court. There are known instances where physicians would have, in all proability, benefited by having a case brought before the Panel, but were persuaded not to do so by their attorneys.

Dr. Wallace stated that he had undertaken the study of the problem with the feeling that unilateral hearings might well be unfair and unjustified. However, since looking into the matter thoroughly, and

becoming more familiar with the Panel's objectives and procedures, he feels that the unilateral approach has much to recommend it.

During the ensuing discussion, Dr. Wallace was commended on the thoroughness of his investigation. A question was raised as to how a plaintiff can actually be required to abide by a Panel decision and take no further legal action. Mr. Miller was asked for his thoughts, and expressed the feeling that the plaintiff can be bound by an agreement should the Society and Bar wish it so. Brought out was the fact that such agreements are really nothing new, but have existed for a long time in other areas of our American life.

Dr. McCausland reported on his recent visits to West Virginia and Kentucky, and pointed out that Society presidents have, for the past several years, received invitations to attend annual meetings of our neighboring state societies. He stated that The Medical Society of Virginia has no policy on issuing such invitations to its own Annual Meeting, and wondered whether any was actually called for. He expressed the feeling that it might well be left to the individual president—recognizing that situations are not always the same. Mentioned was the fact that the Society had, at one time, exchanged fraternal delegates with some of its neighboring states, but discontinued the practice at the request of one of them in the early 1950's.

After considerable discussion, *it was moved by Dr. Puzak that future invitations to annual meetings of our state societies not be accepted by presidents in an official capacity. The motion was seconded and adopted.* It was pointed out that presidents should, of course, feel free to attend such meetings on a personal and unofficial basis.

Dr. Walton then moved that, if at all possible, notices of future annual meetings of The Medical Society of Virginia carry an open invitation. The motion was seconded and carried.

Considered next was a proposal that The Medical Society of Virginia award an annual $1,000 scholarship to a high school graduate to be used in furthering his, or her, education in the medical field. The proposal had been received from the Chairman of the Society's Sub-Committee on Rural Health.

Discussion brought out the fact that experience with such scholarships has not been good, and that the recipients so often fail to follow through with their medical education. Consequently, *a motion to reject the proposal was seconded and adopted.*

Council was advised that Mr. Charles Sydnor, a Virginia attorney, had requested the thinking of the Society concerning a proposed method of identifying persons who have made provisions in their wills for their remains to be delivered to a medical school, or other appropriate facility. Mr. Sydnor stated that, for various reasons, the wish of the deceased is seldom realized. Since this is mainly because relatives are not aware of the instructions in the will, some ready means of identification must be devised.

The proposed solution was to have a distinctive tatoo placed upon the body—possibly on the left chest just beneath the clavicle—which could be distinctive enough in design to make it a badge of honor rather than a common decorative tatoo.

A proposed clause to be included in such wills was also considered, and some objection noted to the provision that "any parts that are used for transplanting to any other person shall go only to the poor, or as may be determined by such facility". The feeling was expressed that people from all walks of life must be considered for transplants, etc., and that restricting the use of such parts to the poor did not seem practical.

Dr. Birdsong introduced a motion to endorse Mr. Sydnor's proposal with the recommendation that that portion of the clause designating only the poor as recipients be deleted. The motion was seconded and carried.

Considered next was a recommendation from the Society's Insurance Committee that the American Home Assurance Company be approved as the new carrier for the Society's accidental death, dismemberment and disability program. It was explained that the former carrier had decided to withdraw from this particular area of coverage, and the program administrator—the William M. Werber Agency—had arranged for American Home to take over with no interruption. The new company was reported to be reputable and reliable. The rates remain basically the same, there being a slight increase from 78¢ to 80¢ per $1,000 coverage. An additional $50,000 is, however, available under the new carrier.

Dr. Wallace stated that, while he had no objection to the new carrier, he did prefer making his premium payments payable to the company rather than the agent concerned. Payments under the program are made payable to the Werber Agency. It was agreed that there might well exist a quite valid reason for having the checks made payable to the agent, and it was suggested that the Executive Secretary discuss the matter with Mr. Werber. Hope was expressed that checks could be made payable to the company.

A motion to approve the American Home Assur-

ance Company as the program's carrier was introduced and seconded. It was then amended in such manner as to grant approval subject to an adequate explanation of the payment procedure by Mr. Werber. The motion as amended was adopted.

The "Rules of Procedure" employed by the House of Delegates were reviewed by Council during its February session. Several amendments were directed at that time. Dr. Salley indicated that he had no further suggestions, and that the new "Rules of Procedure" will be ready for distribution before the annual meeting. Final preparation had been delayed until it was certain that Council had no further recommendations.

The 1971 Annual Meeting was discussed, and Dr. Puzak expressed, on behalf of Northern Virginia physicians, the hope that the Society will meet once again at the Marriott Twin Bridges Motor Hotel. He stated that an exploratory meeting had already been held with Marriott officials, and that the entire week of October 10, 1971, was being held on a tentative basis. It is planned to hold that entire week until after the 1967 Annual Meeting if it all possible. This would permit the Society to make a decision as to whether future meetings will begin on a Sunday or a Thursday.

Dr. Nelson stated that some state societies have either eliminated or curtailed their scientific sessions —concentrating more and more on the business affairs which are so important. Such an arrangement also permits more time for alumni and specialty group activities, and makes it possible to eliminate that last half day which poses so many problems.

Mention was made of the fact that the 1967 Annual Meeting will feature a new scientific program format—with the various specialty groups responsible for arranging their own programs. It is planned to have two or more sessions running simultaneously.

A motion to refer the matter to the Program Committee was withdrawn by Dr. Andrews when the thought was expressed that this might well be outside that particular Committee's area of responsibility. *Dr. Andrews then moved that a special committee be appointed by the President to advise the Program Committee of Council's wishes regarding future annual meetings. The motion was seconded and adopted.*

Council next turned its attention to Virginia's heart, cancer, stroke program, and asked Dr. Edwards for his comments. It was learned that the Governor's Advisory Committee on Heart, Cancer, Stroke has concluded its preliminary studies and formulated a report for the National Institutes of Health. The report was said to recommend a continuing education type program for the state. Dr. Edwards indicated that the Medical College of Virginia had been helpful in setting up a corporate body to work with NIH. Such a body is required by law.

Dr. Nelson then briefed Council on the work of the special committee which had been assigned the responsibility of developing a proposal for Virginia. This is currently in the form of a planning grant request. If things go as planned, a later request for operating funds will be forthcoming.

Dr. McCausland reported the fear in some areas that a strong effort is being made to stress "treatment" rather than "research". This has been the concern voiced most often by medicine since the very inception of the program. The thought was expressed that, in some government circles, there is a noticeable swing away from research to the provision of basic medical care.

Dr. Nelson was asked whether Northern Virginia was being excluded from Heart, Cancer, Stroke planning. The answer was no, and it was revealed that Virginia is considered as a region unto itself. It was explained, however, that physicians in certain areas might well align themselves with projects closer at hand and, in their judgment, more appropriate to their communities.

Dr. Wallace stated that he had given a great deal of thought to the Society's committee structure, and felt that several inactive committees could well be eliminated. He went on to say that, in his judgment, three existing special committees should be given standing committee status, and expressed the opinion that the Constitution and By-Laws could be amended accordingly. These committees were Medicare, Heart, Cancer, Stroke and Liaison to the State Bar. He added that his review of the By-Laws indicated to him the need of a complete revision. It was agreed that a comprehensive review and revision of the By-Laws might well indeed be overdue.

A motion to refer the matter of revision of the Constitution and By-Laws to the Judicial Committee was seconded and adopted.

There followed some discussion concerning whether the Special Committee on Air Pollution and Respiratory Disease should be retained, and it was the consensus that it might prove very helpful in the years just ahead. Dr. Shanholtz expressed the feeling that more use would perhaps have been made its services, if its existence had been generally known.

A motion to retain the Committee on Air Pollu-

tion and Respiratory Disease was then introduced by Dr. Andrews. It was seconded and adopted.

Next on the agenda was a request from the Richmond Academy of Medicine that the staff retirement program of The Medical Society of Virginia be broadened to include the Academy's Executive Secretary. It was pointed out that retirement programs are not easily obtained for one or two people, and the Society would be providing a wonderful service to the Academy and other component societies if it were willing to include such personnel. The underwriter has indicated that it would be willing to include staff members of other components should The Medical Society of Virginia give its approval.

It was brought out, however, that such a step would necessitate some changes in the program as now established. For example, the waiting period for eligibility would be reduced from 5 years to 1 year, and the vesting period changed from 5 years to 10. The changes were thought to be of no major consequence, and would not lessen the attractiveness of the program.

A motion was introduced and seconded which would permit the staff retirement program to be broadened in such manner as to make it available to the Executive Secretary of the Richmond Academy of Medicine. An amendment was then adopted which would make the plan available to all component societies wishing to cover their staff personnel. The motion, as amended, was adopted.

A recent opinion by the Judicial Committee was reported as a matter of information. In an effort to resolve a problem of long standing, the Committee had ruled "that delegates to The Medical Society of Virginia will caucus according to the Congressional District in which their component society is located. Those delegates not representing a component society will caucus with the Congressional District in which the major portion of their practice is located.

Dr. Thompson expressed the feeling, however, that this ruling would cause some delegates to be, in effect, disfranchised. Consequently, he introduced the following motion:

"It is moved that the Council accept the ruling of the Judicial Committee relative to the caucus of the delegates for the 1966 meeting of The Medical Society of Virginia. It is further moved that this matter be referred back to the Judicial Committee for further study and endeavor to work out a policy where each physician in each political subdivision of the state can have a voice in the representation which has jurisdiction over their particular locality."

The motion was seconded and discussed at length. It was the thinking of some that Council might well be out of order in accepting a ruling by the Judicial Committee—particularly since the Judicial Committee is considered the supreme authority in such matters. This caused Dr. Thompson to withdraw the first part of his motion having to do with acceptance. The second part was then treated as a completely separate motion.

There existed some question as to whether a ruling by the Judicial Committee can actually be recommitted or "referred back". The feeling was also expressed that the component society is the important thing—rather than the individual delegate. It was stressed that the delegate is elected by the society for the purpose of representing its interests in those matters brought before the House. Since there was some question as to whether the motion was necessary in view of Council's earlier action with reference to a proposed revision of the By-Laws, Dr. Thompson considered it best to withdraw it. Approval to withdraw was obtained from Dr. Finch who had seconded the motion. It was understood, however, that the Judicial Committee would be advised of Dr. Thompson's thoughts and the pertinent discussion.

Dr. Barker then discussed events leading to the adoption of the well publicized Resolution 104 by the AMA House of Delegates. The resolution has stirred a great amount of debate, and was passed by the House over the objection of the Reference Committee concerned. The resolution stated that "Since separate billing by the physician for his professional services is a preferred ethical practice it shall be deemed unethical for a physician to displace a hospital based physician who is attempting to practice separate billing when said displacement is primarily designed to circumvent separate billing."

Dr. Barker went on to state that the Department of Justice has become interested in the resolution, and the AMA Legal Department feels that legal action, based on possible violation of the Sherman Antitrust Act, is a definite possibility. As a result, the AMA Board of Trustees has come to the conclusion that it has no alternative but to direct that Resolution 104 not be implemented.

Some thought was given to whether Society delegates to AMA should be instructed on how to vote if the Resolution is considered again by AMA in November. *Since the Society's own annual meeting will soon take place, a motion was made by Dr. Finch that any such instructions be withheld until*

after that time. The motion was seconded and carried.

Council was acquainted with a resolution adopted by the Prince William County Medical Society and which will, in all probability, be introduced in the House of Delegates on November 6. The resolution pointed out that increased governmental activities have expanded the welfare rolls, and created an undue economic burden on the private physician. In order to remove this burden, the resolution would have hospitalized welfare patients receive free physician service only when rendered by a member of a resident staff. It would further provide that private physicians be paid their usual fee for services in such instances, and that new legislative obstacles to such policy be removed.

It was brought out that while physicians have traditionally provided free care to hospitalized welfare patients over the years, the cost of other goods and services received by these recipients have always been paid. Now that government is assuming responsibility for the medical care of more and more citizens, a change in policy seems indicated.

Dr. Birdsong read excerpts from a letter written by Dr. Liddle bearing on the subject. The letter emphasized that the Prince William resolution does not pertain to the medically indigent population which physicians have always been willing to treat without fee. It does, however, pertain to the true welfare patient whose affairs have been taken over by the Welfare Department.

Dr. Ball reported that legislation had recently been enacted expanding medical and hospital services available to service personnel and their dependents. The Society had been asked to endorse the expansion and indicate its willingness to continue its cooperation with the program. The Medical Society of Virginia is the contracting agent where Virginia is concerned.

Dr. Ball then reported that the Committee on Dependents' Medical Care had recommended endorsement, with the provision that negotiations on a new method of payment—or new fee schedule—be completed not later than June, 1967. The Committee recommends, first of all, that physicians be paid on a "usual and customary" fee basis. This would eliminate the fee schedule currently in effect. As an alternative, the Committee would have the Society seek a 20 percent overall increase. It would further advise the Office of Dependents' Medical Care that if negotiations cannot be completed by June, 1967, the Society will seriously consider withdrawing as contracting agent for the program.

Dr. Puzak reported on conversations he had with military personnel, and stated that a 20 percent increase was not considered out of line, especially since no revision had been adopted for at least eight years. It was learned, however, that at least ten states have no fee schedule whatever.

Dr. Puzak then moved that the Society no longer approve a fee schedule under the Dependents' Medical Care Program, but insist instead on the "usual and customary" fee approach. The motion was seconded and adopted.

Council then called upon Dr. Grossmann to discuss a request that VaMPAC dues be included once again on the annual dues statement of The Medical Society of Virginia, and that a grand total be listed. Dr. Grossmann expressed, on behalf of the VaMPAC Board of Directors, appreciation for the financial support the Society has contributed during the past year. He stated that VaMPAC is, in many ways, a creature of the Society, and its continued support is essential. He stressed the fact that VaMPAC is completely bipartisan, and that its primary purpose is to support those candidates who believe in the causes of medicine and subscribe to its philosophy.

At this point, Dr. Grossmann requested that Council consider three nominations to fill vacancies occurring on the VaMPAC Board of Directors. The nominees were Dr. Francis G. Horn, Newport News, Dr. Echols A. Hansbarger, Lynchburg, and Dr. Joseph M. Kline (Dentist), Arlington. *A motion to appoint the three nominees to the VaMPAC Board of Directors was introduced by Dr. Carmines and adopted.*

Dr. Grossmann then stated that the billing method employed last year had not proved as successful as everyone had hoped. Although VaMPAC membership has shown a gain during the year, it still leaves much to be desired. It was learned that second, and separate, billing to the membership was necessary to bring it up to its present total of approximately 425. Dr. Grossmann stated that those states which had included a total figure on their dues statements had obtained better results.

In commenting on the legal aspects of the question, Mr. Miller stated that an organization such as The Medical Society of Virginia must be careful with respect to the support it gives a political action group. He stated that contributions other than financial can be equally as dangerous, and indicated that the Society should not jeopardize in any way its tax-exempt status. He indicated that while the chance of being challenged might well be small, the risk involved must be considered quite great. It

was brought out that AMPAC's legal counsel had delivered an opinion that such billing methods pose no clear-cut threat.

After considerable discussion, *Dr. Salley moved that a final decision on the billing procedure be withheld until a hard and fast legal decision could be obtained from counsel for The Medical Society of Virginia. The motion was seconded and adopted.*

There followed discussion concerning the many new problems which medicine has, and will continue to face in the years immediately ahead. There was agreement that the over-all mission of the Society should be studied and recommendations made as to how best it could be staffed to meet the new demands surely to be made on its personnel and facilities. It was agreed that an *ad hoc* committee be appointed by the President to review the situation as soon as possible.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:

ALEXANDER MCCAUSLAND, M.D., *President*

Anti-Coronary Club

A substantial decrease in coronary heart disease is reported among New York men who modified their diet for five years as members of an Anti-Coronary Club. The report appears in the November 7th Journal of the American Medical Association.

The incidence of "coronary events" among 814 volunteers, 40 to 59 years old, was only a third as great as that among a control group of 463 men of the same age. Significant reductions in obesity and hypertension also were noted among the study group. These conditions remained unchanged in those who did not use the special diet.

The study was designed to test the hypothesis that reducing serum cholesterol in the diet will reduce coronary heart disease. This was done by designing a "prudent diet" that cuts intake of saturated dietary fats. The project has been conducted since 1957 by the Bureau of Nutrition of the New York City Department of Health.

Among men aged 40 to 49 who used the special diet for five years, there was a heart-disease incidence rate of 339 per 100,000 years, compared to 642 per 100,000 among the non-dieters. In the 50 to 59 age group, the rates were 379 per 100,000 among dieters and 1,331 per 100,000 in the control group.

The men in the study volunteered after learning of the program through newspaper and radio announcements. None had experienced coronary heart disease before the study began. They underwent extensive periodic physical examinations, and followed specifically prepared diets. Some men dropped out of the study before it was completed, but many were contacted later, and health histories were obtained from most of these. There was great success in reducing obesity among men who participated in the study, and this may have been a contributing factor to the reduction of heart disease.

Although much more study is needed, serum cholesterol reduction seems worthy of consideration as a preventive medical program for the community.

"The practicing physician can use the serum cholesterol determination to screen his high-risk patients. Armed with knowledge, skill, and time, he can practice preventive medicine in his own office in an effort to reverse the risk factors affecting his patients."

The authors are George Christakis, M.D., Seymour H. Rinzler, M.D., Morton Archer, M.B.A., M.P.H., and Arthur Kraus, Sc.D., all of the New York City Department of Health.

Woman's Auxiliary....

New President.



Mrs. Ralph R. Landes, new president of the Auxiliary, was born in Pennsylvania but claims to be, strictly and happily, a Virginian now. A graduate of Hood College in Maryland, Betty was working at Harvard University Press at the time of her marriage to Ralph, who was resident in urology at Boston City Hospital. After several years on the staff of a veterans hospital in West Virginia, Dr. Landes opened his practice in Danville in 1949. At that time, their son, John, now a high school senior, was just six weeks old. Their daughter, Betsy, is a sophomore at Chatham Hall.

Since coming to Danville, Betty has been involved in many community activities. Always enthusiastic about medical auxiliary, she has served as county president and state philanthropy and community service chairman. She belongs to the hospital auxiliary, Y.W.C.A., League of Women Voters, D.A.R., and the Danville Chapter of the Virginia Museum of Fine Arts. For some years she was active in A.A.U.W. and P.T.A., and an Episcopalian Sunday School teacher. She served for two years as president of the Wednesday Club (a large independent woman's club) and now is in her second year as president of the Wayside Garden Club. Occasionally involved in nonpartisan politics, Betty helped in the successful struggles to save the Danville Public Library when it was threatened in 1960, and to raise the minimum driving age limit in Virginia from 15 to 16.

Betty attends many medical meetings with her husband, who is historian of the American Urological Association. In her spare time, she likes to swim or just sit on the porch of the family's lakeside cottage.

Our warmest welcome and our earnest support are extended to Betty as she embarks on a year of highest auxiliary leadership in our State.

Other Officers.

At the Convention in Williamsburg, Mrs. W. Nash Thompson, chairman of the nominating committee presented the following slate of officers for 1966-67:

President-Elect—Mrs. Daniel Anderson, Norfolk
First Vice-President—Mrs. William J. Reardon, McLean
Second Vice-President—Mrs. Wyndham B. Blanton, Jr., Richmond
Third Vice-President—Mrs. Charles F. Manges, Blacksburg
Recording Secretary—Mrs. W. M. Bangel, Newport News
Corresponding Secretary—Mrs. Clifford Gaddy, Danville
Treasurer—Mrs. Robert Mitchell, Arlington
Directors—Mrs. George W. Kelly, Pulaski
Mrs. W. Nash Thompson, Stuart
Mrs. James M. Moss, Alexandria

The slate was unanimously accepted and we feel these officers will serve efficiently and do everything necessary to uphold the high standards of the Woman's Auxiliary to The Medical Society of Virginia.

Editorial . . . .

An Appreciation

ONCE UPON A TIME, but well within the memories of some of us, the presidency of The Medical Society of Virginia was an honor bestowed upon a personable senior member of the profession as a reward for long years of service to his fellow-man and perhaps for contributions he may have made as a member of Council or chairman of one of the committees. The hours were good and the duties were not arduous. They consisted chiefly of appointing a few committees, conducting a meeting of Council, issuing an occasional public statement on some non-controversial topic and presiding over the annual meeting of the Society. Here he was expected to give a presidential address which he frequently borrowed, in part, from orations given by previous presidents, who, in turn, had doubtless lifted passages from the addresses delivered by their predecessors. He then returned home, his brow covered with laurels, and when his obituary was written a few years later it was duly recorded that he had been president of The Medical Society of Virginia. It was a nice system and geared to the tempo of an earlier and simpler age.

Those happy days, sad to relate, are no more. They have gone the way of the five cent cigar and integrity in high public office. In recent years the presidency of a state medical society has become virtually a full-time job. Some presidents actually withdraw from practice during the year they are in office. Each year new committees have become necessary to deal with the ever increasing complexities of present day medical practice. The steady encroachment of a rapacious Federal government into every aspect of medicine culminated this year in the passage of Medicare. The politicians who voted this misbegotten piece of legislation knew little, and cared less, about how this scheme was to be implemented. The problem was dumped into the laps of the physicians. This meant that the officers of the various state societies had the task of finding solutions for the many unanswered questions.

Fortunately, in Dr. Alexander McCausland, The Medical Society of Virginia has had a president during the past twelve months who had the ability and the willingless to devote the countless hours required to cope with the untold details that have devolved upon the Society as the result of Medicare. He has attended numerous meetings in Washington, Richmond and many other cities in an effort to iron out the complexities of this unprecedented legislation. His patience has been sorely tried, but not broken, by interviews with arrogant little laymen whose newly acquired authority, by reason of this political bonanza, has been surpassed only by their vast ignorance of medical matters. He stood firm whenever possible, but when he had to give ground, he did so grudgingly, as a good soldier should. Old General McCausland, CSA, who was never

one to run from a fight, would have approved of the way his grandson conducted himself while dealing with this second invasion of the Carpet-baggers.

Throughout it all Dr. McCausland has had the aid and backing of a Council which responded to every call for special meetings to deal with the various problems related to Medicare. Unquestionably more meetings of Council have been held, and more physician's families have had their plans for Sunday disrupted this past year, than during any corresponding period in the history of the Society. Our efficient Executive Secretary-Treasurer, Mr. Robert I. Howard, has proven his worth many times over by performing uncounted extra duties during this troubled period, and the members of the headquarters staff have met every need that has arisen with a maximum of dispatch.

The Medical Society of Virginia has reason to be proud of the manner in which its officers have handled the affairs of the Society during the current emergency. They have set a high standard of service and we are all deeply indebted to them.

H.J.W.

Town-Gown Revisited

"Amantium irae amoris integratio est"
("Lovers' quarrels are a renewal of love")

COMMUNICATIONS, or a lack of the same, that odiously frightening term which was the major criticism levelled in an examination by a team from the A.M.A. of recent vintage in Richmond, seems to be the basic problem to be licked in curing the Town-Gown Syndrome. It has been felt that, in general, the two parties necessary to develop this syndrome may be categorized with these characteristics: (1) One group is more liberal in its attitudes and the other more conservative; (2) One is symbolized as tax supported and the other as taxpayer; (3) One is often politically recessive and the other relatively active; (4) One is rather bureaucratic and autocratic, the other less so; (5) One group is basically sheltered, the other is essentially exposed. There seems to be a pattern of contrast between these groups with regard to objectives, philosophies, practice and organization. The basic thread which either cements relationships or renders them further asunder is the status of Town-Gown communications. The absence of adequate communications leads to unwarranted "blood baths" when taken in the extreme. Letters to the editors flood the papers and the lay public then takes over with vitriolic delight, including certain editors and reporters who gleefully "fish in troubled waters", as a professor of medicine recently put it to me.

The shifting emphasis of the full-time geographical medical school faculties forming closed panels to treat private patients has been a recent stress factor the town physicians have decried. This is perhaps a natural evolution from the original concept of treating indigent cases in the medical school and private cases "uptown". Health insurance, government subsidies to medical schools, and recent pro-labor legislation have made the lines less sharply definable as to patient loads carried by either group.

Ever since the Flexner report, the factors responsible for the present-day differences causing the Town-Gown Syndrome have been building up. Certain remarks, on either side, of a derogatory nature, are usually picked up and distorted by those wishing to destroy the system of medicine which has evolved, and continues to evolve, in the United States of America. The so-called "tarnished image" of American physicians further suffers from these destructive attacks. Men of good will are sorely needed on both sides of the question to help resolve an issue which was upon us hardly before we were aware of its existence. As Dr. Welch, former president of the A.M.A., puts it, "There is an overconcern with our particular area of medicine. The research-teacher, with valid dedication, perhaps assumes a rather possessive attitude about his theories in any Town-Gown crisis. Or the practitioner has the idea that those on the faculty are citizens of a never-never land of impractical purism." Now, if ever, is a time when we should be working closely together instead of baying at the heels of each other like a pack of dogs chasing a wounded elk.

The possible feeling of the practitioner that he has lost his prerogatives when admitting patients to the medical school-hospital complex and assumes the status of "LMD" may not be entirely a correct one but is engendered in this atmosphere. The interesting part of this phenomenon, however, is the sudden metamorphosis the senior resident undergoes when he doffs the white coat for good and identifies himself with his new confreres, the erstwhile "LMD". This may be compounded by the fact that the Johnson Administration's implication that the indigent patient is theoretically disappearing places more emphasis on the teaching program which depends more and more on private patients. This means that Town and Gown are each treating the paying patients and, in a sense, competing with each other. Moves of each are being brought into sharp focus and tempers have and will flare, but hopefully, this will occur less and less. As Dr. Patricia Kendall of the Bureau of Applied Social Research, Columbia University, put it, "The practitioners generally resented their academic counterparts because of special privilege." She found that the feeling was "if there are qualified men in the community, the academic people should stay out." The implication is more than that; it is an actuality. The academician now meaningfully competes with the practitioner. The important point which overrides all, however, is that there are more than enough patients for both groups, hence there can be little to complain of economically. Clinical teaching, of course, can only be done well by physicians actively participating in

patient care. Students quickly perceive this and ideally pattern their methods after those of the teacher-practitioner.

The point is raised that the medical school teacher is too much aware of his own problems and too little, if at all, aware of the town physician's problems. The ivory tower complaint is frequently heard. On the other hand, there are schisms within the ranks of both Town and Gown physicians. Fulltime teachers may resent the burdens of teaching assignments when actively engaged in and primarily interested in research. On the other hand, the fulltime teacher who is clinically oriented may equally resent burdens imposed by the research and publish demands. The concept envisioned of a more national type university, as is fostered by frequent meetings of the various colleges and other specialized groups, tends to draw the fulltime teacher into a closer association with their national organization than their individual medical school, which may be considered provincial or out of the main stream in certain medical-thought channels.

The practitioner often finds the ever increasingly expensive equipment so necessary for the practice of medicine controlled by the fulltime teacher. This means that certain sophisticated diagnoses can only be made within the cloistered ivory tower. Practitioners are bound to feel bypassed in this probably necessary transition and evolution of medical practice by the self-evident fact that all physicians do not have the aptitude or interest for academic work which will, of necessity, limit those in the control of facilities to the medical school-hospitals.

Dr. Charles Aring, a Cincinnati University full-time neurologist, stated, "Theoretically, I know about the activities of the general practitioner of medicine, but mightn't I perform better than a theoretician if I had done his work myself? Wouldn't I learn something about the techniques of 'making do' away from the siren laboratory? Mightn't I learn more about this rather general dedication to free enterprise and his fear of socialization? Wouldn't I be likely to develop compassion for the practitioner if I did not already possess it? Couldn't I derive pleasure in the immediate contribution to and complete responsibility for patients and the relief I might be able to afford a perhaps harassed brother physician, even though it was brief? Presumably, such work would return me to my classes with additional zest for teaching, of which I am fond in any case." Dr. Aring advocated full-time medical teachers who are still vigorous to accept locum tenens work and allow the practitioner to attend or participate in the affairs of the medical school-hospital where he might best fit. Perhaps the academician and practitioner might work out such an arrangement.

Communications is the *leit motif* heard through all themes. When this important factor lags, friction and difficulty between Town and Gown often ensues. Poor communications may mean a lack of interest on both sides.

Continuing education is a necessity to practicing medicine today, and

this in itself should dispel the greatest part of the Town and Gown affair. Increased educational activities can bridge the gap nicely. This may be tremendously enhanced by those physicians having clinical practices serving on the voluntary, adjunct faculty of the local medical school. To use these men skillfully would bring about a rapprochement to a large degree between Town and Gown. The medical schools showing the highest interest in working with the component medical societies usually have the greatest confidence, respect, and support of the practitioner. The converse is also true unfortunately. There are too many instances of common problems and solutions, shared interest and mutual goals, for Town and Gown not to work together. Close collaboration in developing a program of continuing education is a must. We are fortunate in Virginia that both schools now enjoy departments primarily oriented in this direction. Practitioners appreciate medical faculty efforts in this area, and this has been found to be one solution to the communications problems which still exist albeit to a lesser degree in Virginia now than a few years ago. The appointment of men with active backgrounds in the private practice of medicine as directors of continuing education departments in the medical schools has been a long step in the right direction.

Our major joint effort is the dissemination of knowledge in medicine, to make it more rapidly and effectively available to patients. To this end, Town and Gown should each, of necessity, bend a little. The past fights have been ill-afforded luxuries and have proved quite costly in time, energy and public esteem. We all lose in such a debilitating, wasteful struggle.

Robert Edgar Mitchell, Jr., M.D.

News . . .

Calendar of Events

Electrocardiographic Diagnosis—The Medical College of Virginia—Weekly through January 26, 1967.

Weekly course offered by the Continuing Education Department and the Section of Cardiovascular Disease of the Department of Medicine each Thursday from 4:00 to 5:30 p.m. The course is designed for those physicians who have some knowledge and experience with electrocardiography and who desire to increase their skills in depth in techniques and interpretation, including pattern and vector analysis.

Virginia Board of Medical Examiners—Hotel John Marshall—Richmond—December 11-12, 1966.

Post Graduate Seminar on Current Problems in Pediatric Surgery—Sponsored by the Medical College of Virginia and Petersburg General Hospital—Maude H. Titmus Nurses Educational Building of Petersburg General Hospital—December 19, 1966. (Acceptable for continuation study credit by AAGP.)

Post Graduate Seminar on Acute Renal Failure—Sponsored by the Medical College of Virginia and Petersburg General Hospital—Maude H. Titmus Nurses Educational Building of Petersburg General Hospital—January 16, 1967. (Acceptable for continuation study credit by AAGP.)

First National Congress on Socio-economic Aspects of Health Care—Palmer House—Chicago, Illinois—January 22-23, 1967.

Seminar on Practical Aspect of Neurology and Psychiatry for the General Practitioner—Sponsored by the Department of Neurology and Psychiatry and the Office of Continuing Education of the University of Virginia School of Medicine—The Homestead—Hot Springs—January 26-28, 1967.

Post Graduate Seminar on Ambulatory and Emergency Care in Community Hospitals—Sponsored by the Medical College of Virginia and Petersburg General Hospital—Maude H. Titmus Nurses Educational Building of the Petersburg General Hospital—January 30, 1967. (Acceptable for continuation study credit by AAGP.)

Virginia Academy of General Practice—Annual Meeting—The Homestead—Hot Springs—March 2-5, 1967.

National Medico-Legal Symposium—Fontainebleau Hotel—Miami Beach, Florida—March 9-11, 1967—Jointly sponsored by American Bar Association and American Medical Association.

National Conference on Rural Health—Queen Charlotte Hotel—Charlotte, North Carolina—March 10-11, 1967.

Annual Clinical Conference—Louise Obici Memorial Hospital, Suffolk—April 5, 1967.

Post Graduate Course on Premature Infants—University of Virginia School of Medicine—Charlottesville—April 7-8, 1967.

Guest Faculty includes Dr. C. A. Smith, Boston, and Dr. W. W. Wheeler, University of Kentucky.

Virginia Society of Anesthesiologists—4th Annual Meeting and Scientific Symposium—Sheraton Motor Inn—Richmond—April 14-16, 1967.

The Annual Meeting

Is over again and work is already beginning for next year. Williamsburg was delightful and must have put in a special order for the weather. That cold front stalled and there was nothing but sunshine and beautiful fall colors. There was a registered attendance of 1,086, which included 701 physicians, 232 ladies, and 153 exhibitors.

Dr. K. K. Wallace, Norfolk, succeeded Dr. Alexander McCausland, Roanoke, to the presidency, and Dr. Thomas W. Murrell, Jr., Richmond, was named president-elect. Vice-presidents are Dr. Hugh G. Stokes, Williamsburg; Dr. Francis McGovern, Danville; and Dr. James M. Moss, Alexandria. Robert I. Howard was re-elected secretary-treasurer. Dr. W. C. Salley, Norfolk, was re-elected speaker of the House of Delegates, with Dr. Thomas Edwards, Charlottesville, vice-speaker.

Councilors for the even numbered districts were elected as follows: 2nd—Dr. William S. Hotchkiss, Norfolk; 4th—Dr. William Grossmann, Petersburg; 6th—Dr. Harry B. Stone, Roanoke (re-elected); 8th—Dr. William D. Liddle, Fredericksburg (re-elected) and 10th—Dr. Carl P. Parker, Jr., Falls Church. Dr. William R. Hill, was elected to fill the unexpired term of Dr. Murrell for the third district, and Drs. F. Ashton Carmines, Newport News; W. Nash Thompson, Stuart; Dennis P. McCarty, Front Royal; and Michael A. Puzak, Arlington, hold over for year.

Dr. W. C. Salley was named delegate to the American Medical Association, for a two year term, succeeding Dr. Vincent Archer who wished to retire. Dr. Richard E. Palmer, Alexandria, was re-elected alternate. Drs. W. Linwood Ball and Allen Barker continue as delegates for another year with Dr. Russell Buxton as alternate. Dr. Alexander McCausland was named an alternate to fill the unexpired term of Dr. Salley.

The next annual meeting will be at the Marriott-Twin Bridges, Motor Hotel, Alexandria, October 19-21, 1967.

New Members.

The following new members were admitted into The Medical Society of Virginia during the month of October:

Edward J. Armbruster, Jr., M.D., Virginia Beach
Robert J. Bosley, M.D., Virginia Beach
M. Marci Cannon, M.D., Roanoke
Thomas Frey, M.D., Falls Church
James A. Gwinn, M.D., Damascus
Lloyd M. Higgins, M.D., Martinsville
Robert W. Johnson, M.D., Lynchburg
John A. Kastretsios, M.D., Stuart
Philip C. Kistler, M.D., Roanoke
Miguel A. Lanz, M.D., Richmond
Madge D. May, M.D., Virginia Beach
Felix C. Miclat, M.D., Abingdon
Rosa C. Ogle, M.D., Waynesboro
Eugene R. Perez, M.D., Petersburg
Yung H. Son, M.D., Charlottesville

Mid-Tidewater Medical Society.

At the meeting of this Society held on October 27th, Dr. Frank Kraler, Hayes, was elected president; Dr. Andres Oliver, Gloucester Point, president-elect; Dr. M. H. Harris, West Point, re-elected secretary; and Dr. W. H. Hosfield, West Point, treasurer.

Accomack County Medical Society.

At the quarterly meeting of this Society on October 27th, Dr. Donald Frank Fletcher, Horsey, was named president; Dr. E. W. Bosworth, Onancock, vice-president; and Dr. Belle DeCormis Fears, Accomac, secretary-treasurer.

Medical Association of the Valley of Virginia.

Dr. James Higgs, Staunton, was elected president of this Association at its annual meeting in Staunton in September. Drs. James R. York, Berryville, John T. Glick, Broadway, and Thomas Warren, Clifton Forge, were named vice-presidents; and Dr. Walter Green, Harrisonburg, secretary.

American Academy of General Practice.

Dr. Carroll L. Witten, Louisville, Ky., has been installed as president of the Academy. Drs. George E. Burket, Jr., Kingman, Kansas, has been named president-elect.

New International Certificate of Vaccination.

Dr. Louis Jacobs, Chief of the Division of Foreign Quarantine of the United States Public Health Service, made the following public announcement on October 3, 1966.

"At its meeting in May 1965, the Eighteenth World Health Assembly adopted the recommendation of the Committee on International Quarantine to amend the smallpox vaccination certificate to indicate whether a freeze-dried or liquid vaccine was used and to include the origin and batch number of smallpox vaccine. The new certificate will come into force on January 1, 1967.

"To be valid for international travel, smallpox vaccinations performed after January 1, 1967 will have to be recorded on the new certificate.

"Smallpox vaccination certificates issued prior to January 1, 1967, shall continue to be valid for the period for which it was previously valid."

Your normal source of supply for PHS form 731 (International Certificate of Vaccination) may be expected to have the new form in December.

Fellows of the American College of Surgeons.

Approximately 1,350 surgeons were made Fellows of the College at its annual meeting in October. Members of The Medical Society of Virginia who were awarded the Fellowship are:

William M. Reid, Jr., M.D., Alexandria
Gardner W. Smith, M.D., Charlottesville
Baxter H. Byerly, M.D., Danville
James R. Sease, M.D., Harrisonburg
Jacques E. Botton, M.D., Lynchburg
J. Paul Wampler, M.D., Manassas
John A. Cross, Jr., M.D., Newport News
Richard L. Sallade, M.D., Newport News
William R. Mauck, M.D., Richmond
James A. Selph, Jr., M.D., Richmond
Harry P. Clause, Jr., M.D., Roanoke
Edgar B. Cutter, M.D., Roanoke
Frederick S. Sturmer, M.D., South Hill
Harold W. Miller, Jr., M.D., Woodstock

Dr. Claude C. Coleman, Jr.,

Richmond, presented a paper before the 10th Congress of the Pan-Pacific Surgical Association in Honolulu, Hawaii, on September 28th. The title of his paper was The Treatment of Recurrent Carcinoma of the Head and Neck.

Dr. W. R. Southward, Jr.,

Richmond, is one of eleven persons who have received the Pfizer Award of Merit for contributions to medical-health and disaster preparedness. The award was presented at the 15th annual conference of the United States Civil Defense Council held in Louisville in October. Dr. Southward is medical director of the civil defense section of the State Department of Health.

Dr. Stuart B. White,

Blackstone, has won the Nottoway River Country Club golf championship for the third year in a row.

Specialized Care for Infants

With unusual medical and surgical problems will be provided in a new unit which opened in October at the University of Virginia Hospital. Hospitalized here will be babies born at the University Hospital and requiring more than routine care. The unit will also provide care for infants born elsewhere and referred by their physicians. The new unit is one of the few of its type combining services for premature infants and problem infants. It includes a two-room intensive care unit with cardiac monitors,

infant respirators and other equipment for heart and lung disorders. Dr. Frank M. Shepard, assistant professor of pediatrics, serves as medical director of this special care service.

The new unit will be used for clinical studies of circulatory and metabolic problems of newborns requiring surgery, and of the long-term care of infants with hyaline membrane disease.

Dr. Johnson Willis

Has been named to the Crewe Town Council.

Southeastern Regional Center for Trophoblastic Neoplasms.

The Department of Obstetrics and Gynecology of Duke University Medical Center announces the establishment of the Southeastern Regional Center for Trophoblastic Neoplasms. This project in Cancer Control is established for the purpose of providing urinary gonadotropin assays and consultative assistance to physicians to aid in evaluation of patients who have or are suspected of having abnormalities in trophoblastic tissue growth.

Physicians desiring gonadotropin assays for patients with placental abnormalities as molar degeneration, hydatidiform mole, syncytial endometritis, chorio-adenoma destruens and choriocarcinoma may call or write the Center at Duke University Medical Center, Durham, North Carolina (Area Code 919, 684-8111).

Cancer Research Seminar.

The Georgetown University Medical Center, sponsored by the District of Columbia Division of the American Cancer Society, will present a one-day seminar on "Clinical Applications of Advances in Cancer Research" on March 11, 1967. This is open to all physicians. Attendance will be limited and will be determined by priority of registration. For further information contact the Division of Oncologic Surgery, Department of Surgery, Georgetown University Medical School, Washington, D. C.

Associates Wanted.

General practitioner, Richmond, Virginia, environs. Some surgery optional. Guaranteed salary with percentage leading to partnership or expense sharing arrangement. Need a second semi-retired physician also. Send curriculum vitae to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Wanted.

Student health physician for State Rehabilitation Hospital in beautiful Shenandoah Valley of Virginia. General practitioner or internist to work with internist director. Basic salary $12,000.00 with regular increments. Virginia license necessary. Contact director of medical services, Woodrow Wilson Rehabilitation Center, Fishersville, Virginia. (*Adv.*)

For Rent

Large modern office suite in same building with established general practitioner in Richmond's west end (Henrico County). Write #125, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries . . . .

Dr. Henry Bearden Mulholland,

President of The Medical Society of Virginia 1944-45, died October 30th after a short illness. He was seventy-four years of age and received his medical degree from the University of Virginia in 1920, took graduate training there and joined the faculty as an instructor in 1922. Mr. Mulholland rose to professor of medicine, was acting chairman of internal medicine, assistant dean of the School of Medicine and retired in 1962. A chair in internal medicine was established in his honor the spring of his retirement and he served as the first incumbent.

Dr. Mulholland served as a member of the House of Delegates of the American Medical Association. He was chairman of its committee on aging, served as vice president of the council on medical services, and was a member of its council on rural health, executive and editorial committees. Dr. Mulholland was president of the American Diabetes Association in 1955 and recipient of the organization's Banting Award. He was a major contributor to improved therapy of diabetes and an authority on problems of aging. Dr. Mulholland was founder of the Virginia Council on Health and Medical Care and its president from 1946 to 1951. He had been a member of The Medical Society of Virginia since 1923 and had always taken an active part in its affairs.

In 1962, Dr. Mulholland received the Thomas Jefferson Award from the University for bringing "greatest honor to the University through his work." He was one of three persons honored this year with masterships in the American College of Physicians—its highest membership award. After his retirement in 1962, he continued as a consultant to the School of Medicine and entered private practice in Charlottesville.

His wife, a daughter and a son survive him.

Dr. Garland Melvin Harwood,

Richmond, died October 16th at the age of seventy-four. He was a graduate of Johns Hopkins University School of Medicine in 1918 and had been in practice in Richmond since 1919. Dr. Harwood had been a member of The Medical Society of Virginia for forty-two years.

His wife and three sons survive him. One son is Dr. Charles P. Harwood, also of Richmond.

Dr. Gill.

Dr. Elbyrne Grady Gill, age 74, internationally known physician, died on September 30, 1966. A Bedford County native and son of a physician, he founded the Gill Memorial Eye, Ear, Nose and Throat Hospital in Roanoke in 1926. Dr. Gill was not only an outstanding physician in his specialty, but he was equally a civic leader in Roanoke and in the State of Virginia.

Dr. Gill graduated from Vanderbilt University in 1916, and had residency training at the New York Eye and Ear Infirmary. He also studied at the University of Pennsylvania and in London, Paris, Berlin and Vienna. He was a practicing physician in Virginia for 50 years.

He was Past-President of the Roanoke Academy of Medicine, the Southwestern Virginia Medical Society, the Virginia Society of Ophthalmology and Otolaryngology, and the New York Eye and Ear Alumni Association. He organized the Virginia Chapter of the International College of Surgeons and was Regent in Virginia for the International College of Surgeons for ten years.

Dr. Gill established, in 1956, the first Eye Bank in the State of Virginia serving all of Southwest Virginia. He established the E. G. Gill Eye and Ear Foundation for the prevention of blindness and restoration of sight under which the Eye Bank functions.

Dr. Gill organized the E. G. Gill Annual Postgraduate Spring Congress for refresher course in Eye, Ear, Nose and Throat in 1927, the first postgraduate course of its kind in any specialty in the annals of medical history in America. At his instigation, tre-

mendous energy and courage, specialists and scientists throughout the nation and from other countries came to the State of Virginia, and in particular to Roanoke, to lecture at the Spring Congress annually.

In 1943-44, Dr. Gill served as President of the Lions International. He was Chairman of the Roanoke Board of Health for 27 years until his death.

In 1943, he was cited as one of ten outstanding Virginians. He received the Omicron Delta Kappa Leadership Fraternity Honorary Medal at Virginia Tech. He has been listed in Who's Who in America for twenty years. He was Emeritus Deacon at the Calvary Baptist Church where he taught the Young Men's Bible Class for 25 years.

Dr. Gill was Certified by the American Board of Otolaryngology and he was a member of the American Academy of Ophthalmology and Otolaryngology, the American Triological Association, American Medical Association, American College of Surgeons, and International College of Surgeons. His membership and many other offices held in the city, state and national organizations are too numerous to mention further.

Dr. Gill is survived by his wife, three daughters and nine grandchildren.

THEREFORE, BE IT RESOLVED that the Roanoke Academy of Medicine extend its sympathy to the bereaved wife and family.

BE IT FURTHER RESOLVED that this resolution become a part of the minutes of the Roanoke Academy of Medicine and a copy be sent to the family and the Virginia Medical Monthly.

GEORGE HURT, M.D.
ALLEN BARKER, M.D.
HOUSTON BELL, M.D.

Dr. Overton.

On the afternoon of August 19, 1966, the heart of a great physician was stilled by a massive coronary occlusion of short duration. A heart big enough to include love and devotion to his family, patients and friends, every hour of the day throughout the years of loving service.

Shoes were left empty that will be very difficult, if not impossible, to fill, by one who had given so much of himself to his patients and such wonderful treatment as Frank Overton, pediatrician, had done.

Frank was born on May 12, 1916, in Norfolk. He attended William and Mary and received an undergraduate degree of Bachelor of Science in 1938. He earned his M.D. degree from the Medical College of Virginia in 1942. Post-medical school training consisted of a rotating internship at Stuart Circle Hospital in Richmond from 1942 to 1943. He served an assistant residency in pediatrics at St. Louis Children's Hospital in 1941-47 and two years residency training at M.C.V., 1947-48.

Frank spent two years on active duty in the South Pacific in the very midst of fighting in World War II.

He entered the practice of pediatrics in Portsmouth in 1948 and remained until 1950, when he was enticed by friends to open his practice in Suffolk. Frank's practice in Suffolk began in September 1950 and ended only the day of his untimely death. He was a very active member of the Louise Obici Memorial Hospital Staff, a member of the Tri-County Medical Society, member of The Medical Society of Virginia, Southern Medical Association and the American Medical Association. He was very active in the Virginia Pediatric Society.

In addition to his tremendous practice, Dr. Overton gave of himself most freely to multiple staff duties at Louise Obici Memorial Hospital, where he served on various committees, including the Executive Committee and was Vice-President of the Staff.

To say that Frank Overton will be missed in Suffolk and Tidewater is very trite. His absence leaves a void that can never be filled. This was manifest by the sorrow that was shown at the time of his short illness and death by all hospital employees and all patients who knew of his short illness. Very rarely has a colleague seen such a tribute paid him on his death by patients and friends.

All of the active staff were acutely aware of the exceptional diagnostic ability of Dr. Overton. At a time when the use of a stethoscope has seemingly become a lost art, when x-ray is relied on so much, Dr. Overton could still detect areas in the chest of a young one that were practically always confirmed 100% by x-ray. He was loved deeply by every member of the Staff, by every employee of the hospital, by every nurse. He was seen frequently at any hour of the day or night in his devotion to duty to his patients at this hospital.

One of the most outstanding attributes of Dr. Overton was the confidence he instilled in the parents of his patients. They always felt more secure when he had examined and prescribed for that child, so obvious was his personal concern for each of his patients.

Frank left a wonderful family, consisting of Frances, his lovely wife, little Frankie, Margaret and Duane. He was a very devoted family man and spent all the spare time he could with his family. He especially enjoyed taking them on fishing trips when they were away from home. He was always interested in anything that pertained to his family and attended church frequently with them.

Dr. Overton had resided in Suffolk until the last few years, where he had maintained his practice, but

had moved to Windsor, where his wife and three chlidren are living at the present time.

It is with the deepest regret and sorrow that we see the passing of this wonderful man, a physician who was only fifty years of age.

Be It Resolved, Therefore, that a copy of this resolution be spread upon the minutes of the Tri-County Medical Society records, upon the minutes of the Louise Obici Memorial Hospital Staff, a copy sent to the Virginia Medical Monthly and a copy sent to the members of his family.

W. H. Rogers, M.D.
L. J. Stetson, M.D.

Dr. Hall.

Gordon Douglas Hall was born October 7, 1911, the son of Luther Watson Hall and Eunice Shiflett Hall, in Richmond. He attended Richmond public schools and was graduated from John Marshall High School in 1930. Following one year of study at the University of Richmond, he entered the Pharmacy School of Medical College of Virginia, graduating with a B.S. in Pharmacy in 1934. He then entered the Medical College of Virginia School of Medicine and was graduated in 1938.

While at M.C.V., he was a member of Phi Chi Medical Fraternity and Alpha Sigma Chi, honorary leadership fraternity. He was vice-president of his senior class of Medicine in 1937-38; manager of the school baseball team in 1936, 1937 and 1938 and a member of the Monogram Club. Following graduation from M.C.V. he participated in a rotating internship at M.C.V.

In 1939, he entered private practice of general medicine at his family's old home at 5900 Old Hermitage Road, where he practiced until February, 1941. At that time he enlisted in the U.S. Army where he served until January, 1946, attaining the rank of Captain. During his Army career he was ward surgeon for the Washington Quartermaster Depot and ward surgeon of a general medical hospital in the Pacific Theatre. From September, 1946, to June, 1947, he served as professor of Military Science and Tactics at Medical College of Virginia. He again returned to the private practice of general medicine in February, 1946, and practiced until his untimely death, July 11, 1966.

Dr. Hall was a member of the Caduceus Club, serving as its president in 1964. He was also a long time member of the Nurses Professional Registry and served as its president in 1965. He was a member of the Richmond Academy of Medicine, The Medical Society of Virginia, American Medical Association, Richmond Academy of General Practice, Virginia Academy of General Practice and the American Academy of General Practice.

During his years of practice Dr. Hall served on the staff of Medical College of Virginia, Johnston-Willis, St. Lukes, Retreat for the Sick, St. Elizabeths, Grace, Stuart Circle, Sheltering Arms, Richmond Memorial and St. Mary's Hospitals. He was a member of the Pharmacy Committee at Richmond Memorial during its formation.

He belonged to the Ginter Park Presbyterian Church and American Legion Post 38.

Dr. Gordon Douglas Hall was well known to the professional as well as the lay population of Richmond and will be long remembered for his inexhaustible energy and devotion to his practice. His utter disregard for his own well being and his tenacity in his pursuit of the practice of medicine will not soon be forgotten by those of us who are richer for having known him, nor will he soon slip from the special place reserved for him in the hearts of his patients.

He is survived by his wife, two daughters and one son.

Be It Therefore Resolved that these thoughts be included in the minutes of the Richmond Academy of Medicine and a suitable copy be sent to his wife and children.

VIRGINIA MEDICAL MONTHLY

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The Medical Society of Virginia

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"THIS classification is psychologically too seductive, pharmacologically too unspecific, and in terms of results not infrequently untrue."[2]

What is a tranquilizer? According to the 24th Edition of Dorland's Medical Dictionary[3] a tranquilizer is "an agent which acts on the emotional state, quieting or calming the patient without affecting clarity of consciousness."

Defining a drug by its effects, however, can be misleading. The same effects by which the dictionary defines a tranquilizer have sometimes been seen after administration of a sedative — or, for that matter, a placebo.

Ambiguous though the term may be, it appears to be here to stay. The 1966 edition of the Physicians' Desk Reference[4] lists 42 tranquilizers indicated for treatment of anxiety and apprehensive states.

'Tranquilizers' have differences in action, differences in effect

Although all tranquilizers are intended to calm anxious patients there are differences in their actions — and in their effects. They have been divided into three categories — the rauwolfia group, the 'minor' tranquilizers, and the phenothiazines.[5]

Although the tranquilizing effect of rauwolfia has been known for centuries, its use as an antipsychotic agent in current practice has diminished.[5]

A 'minor' tranquilizer is often prescribed to achieve more than one effect. Thus, besides being tranquilizers some of these compounds may be muscle relaxants, antihistaminics with some calming action, anticholinergic sedatives, or antispasmodics.[5]

The phenothiazines are considered 'major' tranquilizers because they alter psychotic behavior.[1] This classification may have done them more harm than good because it implies that the phenothiazines should be reserved for the more severely disturbed. This is not necessarily true.

The phenothiazines — and the problem of sedation

One of the problems of prescribing phenothiazines for ambulatory patients has been the fear that excessive sedation will impair the patient's ability to function. This, however, is less of a problem with some of the phenothiazines.

"Clinically they may be differentiated primarily in terms of their potency and the extent of their sedative effect, which appear to be inversely proportional. That is, the least potent, the one which is used in highest dosage, chlorpromazine, is the most sedative, while the reverse holds true for fluphenazine."[6]

In a recent report on various studies conducted over several years evaluating 360 patients treated for anxiety and stress with seven phenothiazines, this inverse relationship of potency to sedation was confirmed.[7] Also under consideration was the degree to which the particular phenothiazines neutralized anxiety (the angolytic index). Interestingly enough there was, again, an inverse relationship. The most sedative of the phenothiazines appeared to be the least active in neutralizing anxiety. Fluphenazine, one of the least sedative, on the other hand, was found to be most effective in relieving anxiety.[7]

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DRUG	SEDATIVE INDEX	ANGOLYTIC INDEX	BASED ON STANDARD DOSE OF
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Triflupromazine	100	15	25 mgs.
Thioridazine	90	17	25 mgs.
Perphenazine	15	25	4 mgs.
Carphenazine	25	25	25 mgs.
Trifluoperazine	3.3	95	2.0 mgs.
Fluphenazine	3.5	100	2.5 mgs.

*adapted from Sainz[7]

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Contraindications: Do not use with high doses of hypnotics or in patients with subcortical brain damage. Use with caution in patients with a history of convulsive disorders. Severe reactions may occur in patients with idiosyncrasy to other centrally-acting drugs, and severe hypotension may occur in patients with special medical disorders, e.g. mitral insufficiency and pheochromocytoma.

Precautions: Effects of atropine, anesthetics and C.N.S. depressants may be potentiated. Hypotension may occur in patients undergoing surgery. Do not use epinephrine for treatment of the hypotensive reactions which may appear in patients on phenothiazine therapy.

Side Effects: Extrapyramidal reactions, allergic skin reactions, the possibility of anaphylaxis, drowsiness, visual blurring, dizziness, insomnia, nausea, anorexia, salivation, edema, perspiration, dry mouth, abnormal lactation, polyuria, hypotension, and jaundice and biliary stasis may occur. Routine blood counts are recommended to determine possible blood dyscrasias; if symptoms of upper respiratory infection occur, discontinue drug and institute appropriate therapy.

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For full prescribing information, see package insert.

References: 1. Simpson, G.M.: Postgrad. Med. 39:557, 1966. 2. Freyhan, F.A.: Am. J. Psychiat. 115:577, 1959. 3. Dorland's Illustrated Medical Dictionary, ed. 24, Philadelphia, W. B. Saunders Co., 1965, p. 1603. 4. Physicians' Desk Reference, 1966, Oradell, N.J., 1965, p. 310. 5. Cohen, S.: Northwest Med.: 65:197, 1966. 6. Detre, T., and Jarecki, H.: Connecticut Med. 25:553, 1961. 7. Sainz, A.: Psychosomatics 5:167, 1964.

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Adults: 2 tsp. 5 times daily (20 mg.)
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*Based on 4 cc. per teaspoonful.

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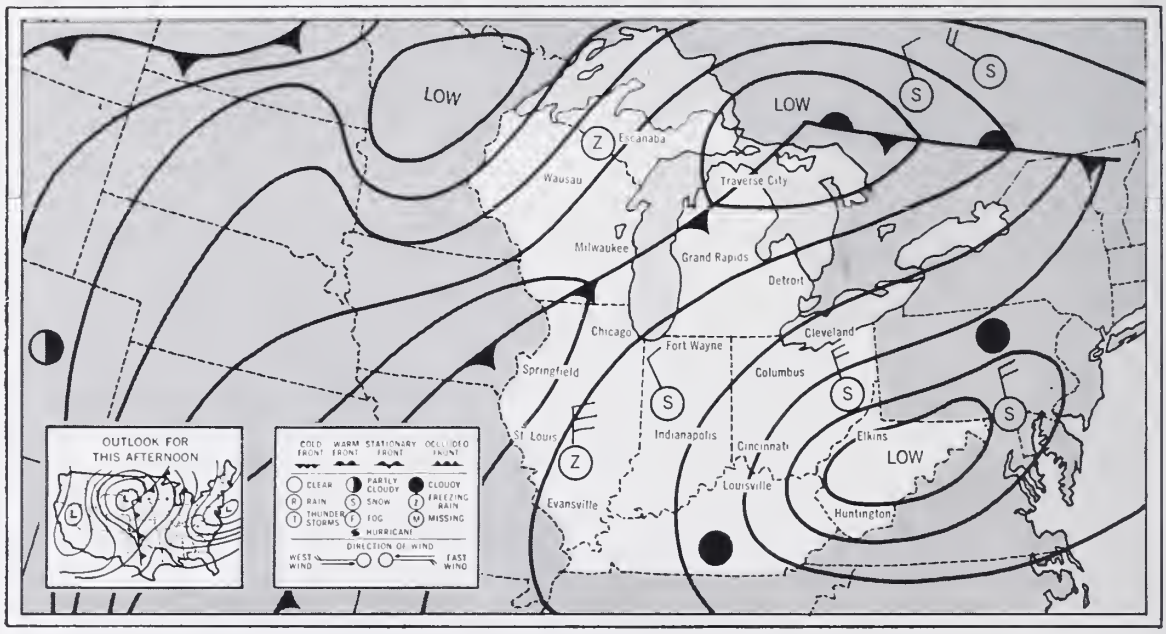
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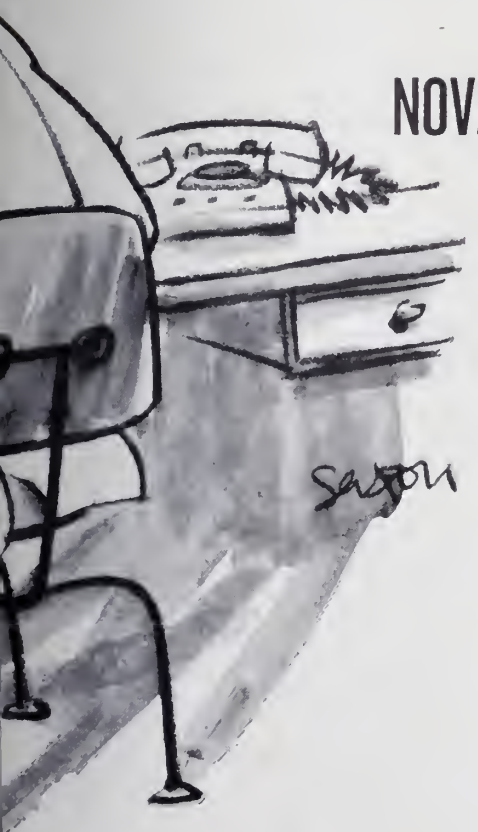
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The patient can feel better while getting better. ACHROCIDIN brings the treatment together in a single prescription—prompt symptomatic relief together with early, potent control of the tetracycline-sensitive organisms frequently responsible for complications leading to prolonged disability in the susceptible patient.

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Contraindication—History of hypersensitivity to tetracycline.

Warning—If renal impairment exists, even usual doses may lead to liver toxicity. Under such conditions, lower than usual doses are indicated and if therapy is prolonged, tetracycline serum level determination may be advisable. Hypersensitive individuals may develop a photodynamic reaction to natural or artificial sunlight during use. Individuals with a history of photosensitivity reactions should avoid direct exposure while under treatment and treatment should be discontinued at first evidence of skin discomfort.

Precautions—Some individuals may experience drowsiness, anorexia, and slight gastric distress. If excessive drowsiness occurs, it may be necessary to increase the interval between doses. Persons on full dosage should not operate any vehicle. Use may result in overgrowth of nonsusceptible organisms. If infections appear during therapy, appropriate measures should be taken. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Infections caused by beta-hemolytic streptococci should be treated for at least 10 full days to help prevent rheumatic fever or acute glomerulonephritis. Use of tetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect has been observed in usual short treatment courses.

Average adult dosage: 2 tablets four times daily, given at least one hour before, or two hours after meals.

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MOLECULAR REMODELING—

laboratory exercise or clinical necessity?

More than twenty-five years have passed since the discovery of the diuretic activity of sulfanilamide started pharmacologists on a succession of molecular remodelings to find the ideal diuretic.

Diuresis—a sought-after clinical effect from an unwanted side effect

It started in 1937 when a clinician reported that the administration of a sulfonamide was sometimes accompanied by an unexplainable side effect—metabolic acidosis.[1] Three years later the side effect was explained. The sulfonamide radical of sulfanilamide inhibited carbonic anhydrase,[2] the enzyme responsible for converting carbon dioxide and water to hydrogen ions and bicarbonate ions.

Later, other investigators showed by dog experiments that metabolic acidosis probably resulted when the inhibition of carbonic anhydrase upset the exchange of hydrogen and sodium ions, causing increased excretion of sodium as the bicarbonate.[3]

It was twelve long years after the first report of the unexplainable side effect (metabolic acidosis) that it was finally shown that large doses of sulfanilamide administered to edematous patients were indeed capable of promoting diuresis.[4] However, the possibility of toxic effects from its prolonged use and its relatively weak diuretic action made it impractical for clinical use as a diuretic.[5]

Because the inhibition of carbonic anhydrase seemed to be the key to effective diuresis, investigators began to look for more potent enzyme inhibitors —in the hopes that they would be more effective diuretics.

The most important of these early compounds, acetazolamide, enjoyed several years of fairly wide clinical use.

Its carbonic anhydrase inhibitory activity was several hundred times greater than that of sulfanilamide.[6] The increase in inhibitory activity, however, increased not only the excretion of sodium and bicarbonate ions, but also the excretion of potassium.[7] And, like its predecessor, acetazolamide precipitated mild acidosis. Its prolonged use could result in hypokalemic acidosis.[7]

The 'thiazides'—an answer to the metaholic acidosis caused by carbonic anhydrase inhibition

Despite the fact that the sulfonamide group appeared to be responsible for carbonic anhydrase inhibition which in turn appeared to be responsible for diuresis, investigators began to synthesize compounds with structural alterations to the sulfonamide group.

The first major breakthrough came with the synthesis of chlorothiazide. Altering the sulfonamide group did indeed alter the ability of chlorothiazide to inhibit carbonic anhydrase—it was only 1/10th as potent as acetazolamide in inhibiting the enzyme.[8] Despite the drop in inhibitory potency, however, chlorothiazide proved to be an effective diuretic—an observation that led to the conclusion that its diuretic action was due to some mechanism other than its action on carbonic anhydrase.[9,10]

For effective diuresis, chlorothiazide was administered in daily dosages ranging from 250 to 2000 mg.[11] It increased the excretion of sodium and chloride; and, to a lesser extent, potassium and bicarbonate.[11] The excretion of potassium appeared to be maximal at higher dose levels at which, theoretically, the carbonic anhydrase inhibitory effect is more active.[11] Its prolonged use, therefore, could sometimes result in metabolic hypokalemic, hypochloremic alkalosis.[7]

Naturetin—effective diuresis with more favorable electrolyte balance

Other thiazides followed—with improvements being aimed at two particular areas: 1. attempts to increase diuretic action in relation to the milligram potency of the drug, and 2. attempts at a more favorable sodium/potassium ratio in the urine, i.e., to decrease the excretion of potassium while maintaining the excretion of sodium.[12]

One of these, Naturetin, Squibb Bendroflumethiazide, has made advances on both these points. "By adding a 3-benzyl radical to hydroflumethiazide a rather dramatic reduction in dose range is accomplished. With this drug, effective sodium excretion is obtained with doses between 2.5 and 10 mg., which is a 200 to 1 ratio as compared to chlorothiazide..."[13]

Moreover, due probably to its virtual lack of carbonic anhydrase inhibition, Naturetin (bendroflumethiazide) has been shown to cause less potassium and bicarbonate loss and less alteration in urinary pH than either chlorothiazide or hydrochlorothiazide.

Naturetin is outstandingly effective not only in establishing, but also in maintaining, excretion of retained fluid in edematous patients. And its duration of action is sufficiently prolonged to allow a single daily administration in most patients. Naturetin is also an effective antihypertensive agent.

Contraindications: Severe renal impairment; previous hypersensitivity.

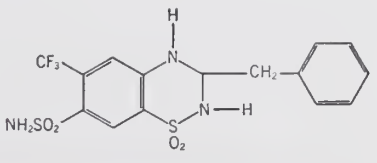
Warning: Ulcerative small bowel lesions have occurred with potassium-containing thiazide preparations or with enteric-coated potassium salts supplementally. Stop medication if abdominal pain, distension, nausea, vomiting, or G.I. bleeding occur.

Precautions: The dosage of ganglionic blocking agents, veratrum, or hydralazine when used concomitantly must be reduced by at least 50% to avoid orthostatic hypotension. Electrolyte disturbances are possible in cirrhotic or digitalized patients.

Side Effects: Bendroflumethiazide may cause increases in serum uric acid, unmask diabetes, increase glycemia and glycosuria in diabetic patients and may cause hypochloremic alkalosis, hypokalemia; cramps, pruritus, paresthesias, and rashes may occur.

Supplied: Naturetin (Squibb Bendroflumethiazide) 5 mg. and 2.5 mg. tablets. Also available Naturetin c K [Squibb Bendroflumethiazide (5 or 2.5 mg.) with Potassium Chloride (500 mg.)]. For full information, see Product Brief.

References: **1.** Southworth, H.: Proc. Soc. Exper. Biol. & Med. *36*:58, 1937. **2.** Mann, T. and Keilin, D.: Nature *146*:164, 1940. **3.** Pitts, R. F., and Alexander, R. S.: Am. J. Physiol. *144*:239, 1945. **4.** Schwartz, W. B.: New England J. Med. *240*:173, 1949. **5.** Friedberg, C. K., in Moyer, J. H., and Fuchs, M.: Edema Mechanisms and Management, Philadelphia, W. B. Saunders Co., 1960, p. 259. **6.** Cumming, J. R.; Tabachnick, E., and Seelig, M., in Moyer, J. H., and Fuchs, M.: op. cit., p. 254. **7.** Werko, L., in Moyer, J. H., and Fuchs, M.: op. cit., p. 188. **8.** Beyer, K. H., Jr., in Moyer, J. H., and Fuchs, M.: op. cit., p. 274. **9.** Maren, T. H., and Wiley, C. E.: J. Pharmacol. & Exper. Therap. *143*:230, 1964. **10.** Earley, L. E., and Orloff, J.: Ann. Rev. Med. *15*:149, 1964. **11.** Fuchs, M., and Mallin, S. R., in Moyer, J. H., and Fuchs, M.: op. cit., p. 276. **12.** Ford, R. V., in Moyer, J. H., and Fuchs, M.: op. cit., p. 290. **13.** cited in Fuchs, M., and Mallin, S. R. (ref. 11): op. cit., p. 283.



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This clinical study shows that the two combinations of antibiotics were not superior to some of their single components. The authors point out that antibiotic antagonism often negates theoretical advantages of multiple therapy. Coly-Mycin Injectable (colistimethate sodium) was one of the single components that was shown to be equal to the combinations and eradicated bacteriuria in two-thirds of the patients.

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1. McCabe, W. R., and Jackson, G. G.: New England J. Med. 272:1037, 1965.

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Warning: Patients should be cautioned not to drive vehicles or use hazardous machinery while on therapy.

Precautions: In cases of impaired or suspected renal impairment, use with greater caution and reduce dosage in proportion to extent of impairment. Transient elevations of BUN have been reported. As a routine precaution, appropriate blood studies should, therefore, be made during prolonged therapy.

As with all polypeptides, the possibility of muscular weakness, including apnea, due to inadvertent overdosage or normal dosage in the presence of impaired renal function, should not be overlooked. In cases of apnea, medication should be promptly discontinued and assisted respiration given until serum levels fall and normal breathing is restored.

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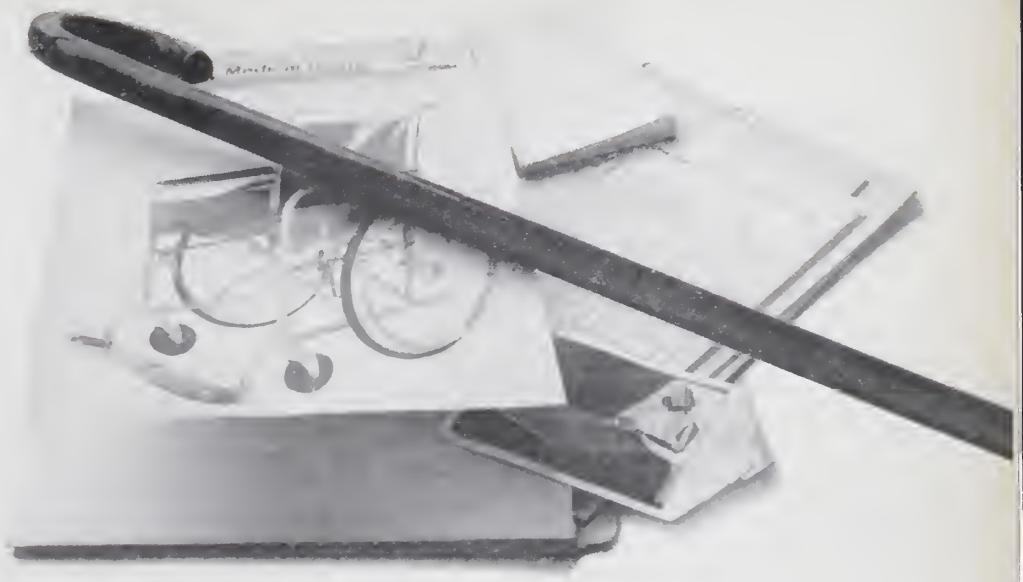
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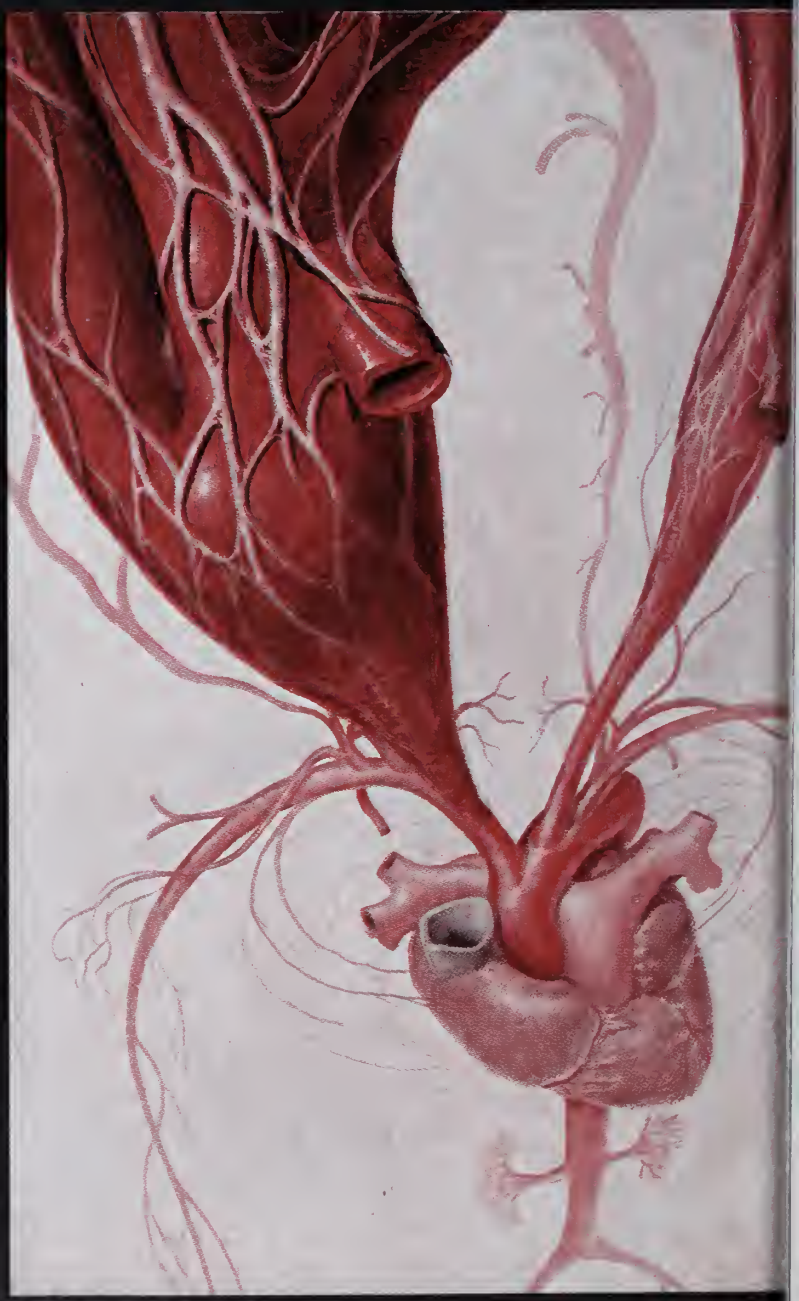
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References: 1. Editorial: JAMA *191*:592 (Feb. 15) 1965. 2. Meilman, E., in Moyer, J.H.: Hypertension, Philadelphia, W.B. Saunders Company, 1959, p. 395.

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Indications: Essential hypertension.
Warnings: Small-bowel lesions (obstruction, hemorrhage, perforation) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs.
Contraindications: Salutensin is contraindicated in severe depression.
Precautions: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss, which may cause digitalis intoxication, responds to potassium-rich foods, potassium chloride or, if necessary, stopping therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy two weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution with patients with peptic ulcers or renal insufficiency (if severe, Salutensin is contraindicated).
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Brief Summary

Indications: Use Erythrocin-Sulfas in infections more susceptible to the combination than to either agent alone. These are usually found in urinary, lower respiratory tract, and chronic ear infections.

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or new born infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions: Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

If a reaction or overgrowth of nonsusceptible organisms occurs, withdraw the drug.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. each of sulfadiazine, sulfamerazine and sulfamethazine. 603303

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The "Socio-geographic" mystery

Why is one man's gastric ulcer another man's duodenal?



Geographic variation in the *incidence* of peptic ulcer is a familiar fact. But the proclivity of certain *kinds* of ulcer for certain geographic areas is a recently recognized phenomenon.[1,2]

For example, in one particular Norwegian fishing village there is a tendency for patients to develop a gastric ulcer; anywhere else in Norway, ulcers are usually duodenal. Peruvians high in the Andes have more gastric ulcers than their compatriots in the lowlands. Why? Nobody knows.

Social variations, too. Even in the same geographic areas there are interesting variations. An Englishman's ulcer depends on his social standing—professional men suffer with duodenal ulcers, while workingmen have more of the gastric variety. In southern India the pattern is reversed. Here, duodenal ulcers are common among laborers and agricultural workers and rare among the upper classes.

Investigators are exploring every possible theoretical avenue in their search for the cause of peptic ulcer. Of all the factors implicated in ulcerogenesis, the one that is generally acknowledged to be of primary importance is hypersecretion of gastric acid.[3-8] Or, as one author states it: "The medical management of peptic ulcer pharmacologically is, in the final analysis, concerned largely with the effective inhibition of peptic activity."[3]

Robinul (glycopyrrolate) provides potent, rapid, specific antisecretory action confirmed by gastric analyses and x-ray evidence of clinical effectiveness.[3,7,9-12] Relieves pain with "impressive" promptness.[8] Quickly alleviates acute discomfort, and effectively counteracts gnawing pain, preprandial midepigastric pain, belching and other ulcer symptoms.[7] Suppression of nocturnal pain is "outstanding."[13] Maximally effective doses may be given with minimal side reactions, and the incidence of unwanted anticholinergic effects is negligible.[3,7-14]

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(brief summary follows)

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Indications: In addition to its primary indications for duodenal and gastric ulcer, Robinul (glycopyrrolate) is indicated for other GI conditions that may benefit from anticholinergic therapy. Robinul-PH Forte (glycopyrrolate 2 mg. with phenobarbital) is indicated when these situations are complicated by mild anxiety and tension.

Contraindications: Glaucoma, urinary bladder neck obstruction, pyloric obstruction, stenosis with significant gastric retention, prostatic hypertrophy, duodenal obstruction, cardiospasm (megaesophagus), and achalasia of the esophagus, and in the case of Robinul-PH Forte, sensitivity to phenobarbital.

Precautions: Administer with caution in the presence of incipient glaucoma.

Adverse Reactions: Dryness of the mouth, blurred vision, urinary difficulties, and constipation are rarely troublesome and may generally be controlled by reduction of dosage. Other side effects associated with the use of anticholinergic drugs include tachycardia, palpitation, dilatation of the pupil, increased ocular tension, weakness, nausea, vomiting, headache, dizziness, drowsiness, and rash.

Dosage: Dosage should be adjusted according to individual patient response. Average and maximum recommended dose is 1 tablet 3 times a day: in the a.m., early p.m., and at bedtime. *See product literature for full prescribing information.*

Supply: Robinul (glycopyrrolate 1 mg.); Robinul Forte (glycopyrrolate 2 mg.); Robinul-PH (glycopyrrolate 1 mg.) with phenobarbital 16.2 mg. (Warning: May be habit-forming); Robinul-PH Forte (glycopyrrolate 2 mg.) with phenobarbital 16.2 mg. (Warning: May be habit-forming.) In bottles of 100 and 500 scored tablets.

References: **1.** Jones, F. A., and Gummer, J. W. P.: Clinical gastroenterology, Springfield, Ill., Charles C Thomas, 1960, pp. 322-3. **2.** Bockus, H. L.: Gastroenterology, 2nd ed., vol. I, Philadelphia, Saunders, 1963, p. 468. **3.** Sun, D. C. H.: Ann NY Acad Sci 99:153 (Feb. 28) 1962. **4.** Moore, V. A.: Postgrad Med 38:216 (Sept.) 1965. **5.** Dragstedt, L. R., Woodward, E. R., Storer, E. H., Oberhelman, H. A., Jr., and Smith, C. A.: Ann Surg 132:626 (Oct.) 1950. **6.** Posey, E. L., Jr., Smith, P., Turner, C., and Aldridge, J.: Amer J Dig Dis 10:399 (May) 1965. **7.** Lamphier, T. A., Siegel, L., and Goldberg, R. I.: Amer J Gastroent 37:551 (May) 1962. **8.** Kasich, A. M., and Fein, H. D.: Ibid 39:61 (Jan.) 1963. **9.** Epstein, J. H.: Ibid 37:295 (Mar.) 1962. **10.** Moeller, H. C.: Ann NY Acad Sci 99:158 (Feb. 28) 1962. **11.** Slanger, A.: J New Drugs 2:215 (Jul.-Aug.) 1962. **12.** Barman, M. L., and Larson, R. K.: Amer J Med Sci 246:325 (Sept.) 1963. **13.** Shutkin, M. W.: Amer J Gastroent 38:682 (Dec.) 1962. **14.** Fleshler, B.: J New Drugs 2:211 (Jul.-Aug.) 1962.

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Contraindications: Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

Precautions and Side Effects: Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should he attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive nonpermeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyodermas will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should he aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

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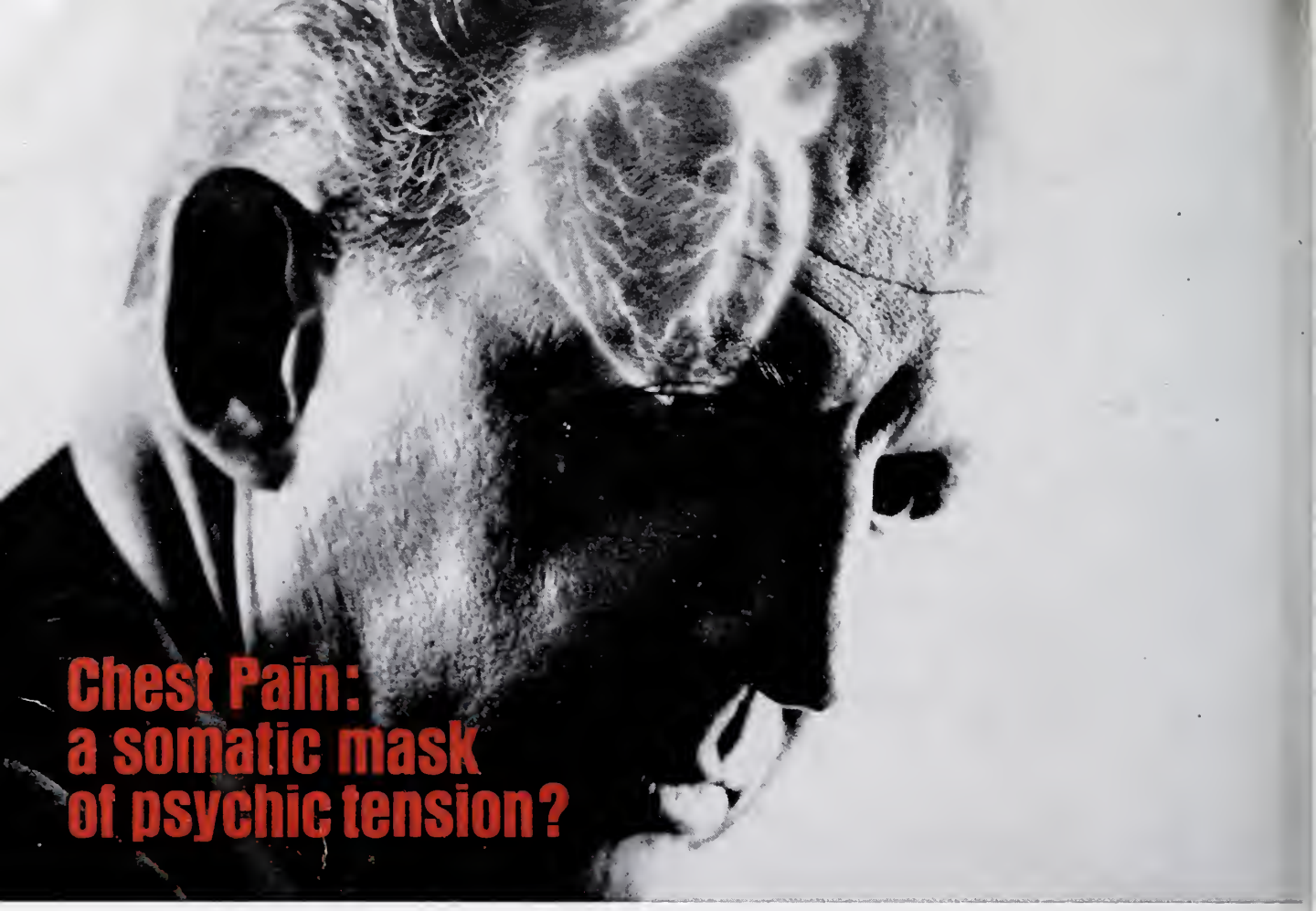
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Chest Pain: a somatic mask of psychic tension?

"Heart symptoms"—chest pain, tachycardia, arrhythmia—invariably alarm and preoccupy the patient, though they may be completely without organic basis. Such symptoms often are somatic masks of psychic tension, arising from constant encounters with stressful situations.

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Valium (diazepam) is generally well tolerated, and usually does not impair mental acuity or ability to function. If side effects such as ataxia and drowsiness occur, they usually disappear with dosage adjustment.

Contraindications: Infants, patients with history of convulsive disorders or glaucoma.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazardous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances and hallucinations) and changes in EEG patterns. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

Dosage — Adults: Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hrs, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. Geriatric patients: 1 or 2 mg/day initially, increase gradually as needed.

Supplied: Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 for convenience and economy in prescribing.

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